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, 2022

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	Trading Symbol	Name of each exchange on which registered
Common Stock, par value $0.01 per share	XNCR	The Nasdaq Global Market

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

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

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

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

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

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

If securities are registered pursuant to Section 12(b) of the Exchange Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b) 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, 2022 was $1,624,180,194.

The number of outstanding shares of the registrant's common stock, par value $0.01 per share, as of February 15, 2023 was 60,030,076.

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 2021 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, 2022.

Xencor, Inc.
FORM 10-K
For the Fiscal Year Ended December 31, 2022
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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.

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PART I

Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. You should not place undue reliance on these statements. 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 effects of inflation and the COVID-19 pandemic on our financial condition, results of operations, cash flows and performance;
- our ability to execute on our plans to research, develop and commercialize our product candidates;
- the success of our ongoing and planned clinical trials;
- the timing of and our ability to obtain and maintain regulatory approval for our product candidates;
- our ability to identify additional products or product candidates with significant commercial potential that are consistent with our business objectives;
- our ability to receive research funding and achieve anticipated milestones under our collaborations;
- our partners' ability to advance drug candidates into, and successfully complete, clinical trials;
- our ability to attract collaborators with development, regulatory, and commercialization expertise;
- our ability to protect our intellectual property position;
- the rate and degree of market acceptance and clinical utility of our products;
- costs of compliance and our failure to comply with new and existing governmental regulations;
- the capabilities and strategy of our suppliers and vendors including key manufacturers of our clinical drug supplies;
- significant competition in our industry;
- the potential loss or retirement of key members of management;
- our failure to successfully execute our growth strategy including any delays in our planned future growth;
- our failure to maintain effective internal controls; and
- our ability to accurately estimate expenses, future revenues, capital requirements and needs 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, 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. We qualify all of our forward-looking statements by these cautionary statements.

Item 1. Business.

Overview

We are a clinical-stage biopharmaceutical company focused on discovering and developing engineered monoclonal antibody and cytokine therapeutics to treat patients with cancer and autoimmune diseases who have unmet medical needs. We use our protein engineering capabilities to increase our understanding of protein structures and interactions and to design new technologies and XmAb® drug candidates with improved properties. We advance these candidates into clinical-stage development, where we are conducting Phase 1 and Phase 2 studies for a broad portfolio of programs, to determine which programs we advance into later stages of development and potentially commercialization, which programs we partner to access complementary resources to optimize development, or which programs we terminate.

Our approach to protein design includes engineering Fc domains, the parts of antibodies that interact with multiple segments of the immune system and controls antibody structural architecture. The Fc domain is constant and interchangeable among antibodies, and our engineered XmAb Fc domains can be readily substituted for natural Fc domains.

Our protein engineering capabilities and Fc technologies enable us and our partners to develop XmAb antibodies and biotherapeutic drug candidates with improved properties and functionality, which can provide innovative approaches to treating disease and potential clinical advantage over other treatment options. For example, we have developed an antibody scaffold to rapidly create novel multi-specific antibodies that bind two or more different targets simultaneously, creating entirely new biological mechanisms. Other applications of our protein engineering technologies enhance antibody performance by increasing immune inhibitory activity, improving cytotoxicity, extending circulating half-life and stabilizing novel protein structures, such as engineered cytokines. Three marketed XmAb medicines have been developed with our protein engineering technologies and are generating royalties for us.

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

- Create new technology platforms;
- Engineer new drug candidates to advance into development or as partnering opportunities; and
- Provide collaboration and licensing opportunities with partners for application of our technologies, access to our technologies, access to our drug candidates, or combinations of each.

Our Strategy

Our goal is to become a leading biopharmaceutical company focused on developing and commercializing engineered biologic medicines 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 XmAb bispecific antibody and cytokine drug candidates.*** Our modular bispecific technology and protein engineering capabilities enable us to rapidly advance multiple drug candidates into clinical development for ourselves and our partners. We and our partners are enrolling patients in multiple clinical studies to evaluate our candidates.

2. ***Build and manage a large and diversified portfolio of XmAb drug candidates.*** We advance multiple candidates that we create from each of our XmAb technologies into early stages of development and evaluate data from such studies in managing our portfolio of candidates. We make additional investments in those candidates that demonstrate encouraging early clinical and scientific data, partner certain drug candidates to third-party biotechnology and pharmaceutical companies, and stop development of candidates based on the evaluation of emerging clinical and scientific data and the competitive environment for such programs.

3. ***Leverage our protein engineering capabilities, XmAb Fc domains, and XmAb drug candidates with partnerships, collaborations, and licenses to generate revenue streams, create new drug candidates and combination treatments, and identify new indications for our pipeline of drug candidates.***

Generate revenue streams. The plug-and-play nature of our Fc technologies and our ability to generate multiple drug candidates efficiently provides us opportunities to generate revenue from licensing and collaboration arrangements. In 2022, we received total proceeds of $198.7 million in upfront payments, milestone payments and royalties from such arrangements.

Create new XmAb drug candidates and investigate novel combination therapies. We seek to leverage our XmAb Fc domains and protein engineering capabilities with partners to create novel XmAb drug candidates, and to evaluate our XmAb drug candidates in combination with other therapeutic agents, when applicable.

Identify new indications for our pipeline of drug candidates. We continue to support Investigator Sponsored Trials (ISTs) in which investigators may explore additional therapeutic indications with XmAb drug candidates.

4. ***Broaden the functionality of our XmAb Fc technology platforms.*** We are conducting further research into the function and application of antibody Fc domains in order to expand the scope of our XmAb Fc technology platforms. We use the modularity of our XmAb bispecific Fc domains to engineer bispecific antibodies and cytokines in a variety of structural formats.

5. ***Continue to expand our patent portfolio protecting our Fc technologies and XmAb drug candidates.*** We seek to expand our intellectual property estate and protect our proprietary Fc technologies, our development programs, and XmAb drug candidates by filing and prosecuting patents in the United States and other countries. Where appropriate, we will seek expansion and extension of patents issued for our product candidates and for partnered product candidates that incorporate one of our Fc technologies.

XmAb Bispecific Fc Domain and New Multi-Specific Antibody Formats

Our modular approach to protein engineering is a distinguishing feature of our Fc technologies. This inherent flexibility enables us to design multiple XmAb bispecific antibody and cytokine drug candidates with distinct and novel mechanisms-of-action and to seek out new applications of the XmAb Bispecific Fc Domain. Our business, research, and clinical efforts are to develop and advance our Fc technologies and our portfolio of XmAb bispecific antibody and engineered cytokine drug candidates in oncology and autoimmune diseases.

CD3 candidates: CD3 bispecific antibody candidates are designed to redirect T cells to tumor cells through the engagement of an antigen on tumor cells and CD3, an activating receptor on T cells.

We have significantly expanded the potential of our CD3 bispecific antibodies with the multi-specific XmAb 2+1 bispecific antibody format, utilizing two identical tumor targeting domains and one CD3 targeting domain. The affinities for antigen binding are engineered to enable selective engagement and killing of high antigen-expressing tumor cells over low antigen-expressing normal cells. In preclinical models, XmAb 2+1 bispecific antibodies bound preferentially to tumor cells compared to normal cells and effectively recruited T cells to kill tumor cells selectively. We believe that these properties will be particularly important when developing bispecific antibodies against many solid tumor targets, where standard monovalent targeting of tumor antigens could lead to poor tolerability because such targets are often expressed on a range of normal tissues, including critical organs.

CD28 candidates: T cells in the tumor microenvironment require both T cell receptor (TCR) and co-stimulatory receptor engagement to achieve full activation. CD28 is a key immune co-stimulatory receptor on T cells; however, the ligands that activate T cells through CD28 are often not expressed on tumor cells. Targeted CD28 bispecific antibodies may provide conditional co-stimulation of T cells, for example, to T cells recognizing neoantigens or in concert with CD3 T-cell engaging bispecific antibodies. We have engineered XmAb bispecific antibodies to provide selective CD28 co-stimulation of T cells, activating them when bound to tumor cells.

TME activator candidates: Our tumor microenvironment (TME) activators have been designed to promote tumor-selective T-cell activation by targeting multiple checkpoints or co-stimulating receptors. These candidates also incorporate our Xtend™ technology for longer half-life.

Cytokine candidates: Our engineered novel cytokine candidates are fusions of XmAb Bispecific Fc Domains and immune signaling proteins. We engineer our cytokine candidates with reduced potency to improve therapeutic index and with our Xtend technology for longer half-life.

We continue to invest in our protein engineering efforts to identify novel technologies and drug candidates.

Other XmAb Fc Domains

We have also created additional XmAb Fc domains, and we have successfully entered partnerships for these technologies and for XmAb drug candidates that incorporate them. We continue to seek additional partnering and licensing opportunities for these Fc domains. Additional XmAb Fc domains 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.

Approved or Authorized Medicines Engineered with XmAb Fc Domains

Currently three medicines that have been developed with our XmAb Fc domains are now marketed or made available by our partners. These medicines generated $152.1 million in royalty revenue for us in 2022, which has partially offset our internal development costs.

- ***Sotrovimab***: Vir Biotechnology, Inc. and its partner GlaxoSmithKline Plc have made available sotrovimab, an antibody that targets the SARS-CoV-2 virus, and in 2021 they received an emergency use authorization (EUA) from the United States Food and Drug Administration (FDA) for the treatment of mild-to-moderate COVID-19 in high-risk adults and pediatric patients. In the first quarter of 2022, the FDA deauthorized sotrovimab in treating patients with COVID-19. Sotrovimab has been granted a marketing authorization in the European Union (EU), approved via Japan's Special Approval for Emergency Pathway in Japan, and granted conditional, provisional, or temporary authorizations in more than 40 other countries. GSK supplies sotrovimab under the name *Xevudy*. Sotrovimab incorporates our Xtend Fc domain for longer duration of action.

- ***Ultomiris® (ravulizumab-cwvz)***: Alexion's Ultomiris is approved in the U.S., Europe, and Japan for the treatment of patients with paroxysmal nocturnal hemoglobinuria (PNH) and for the treatment of patients with atypical hemolytic uremic syndrome (aHUS). In April 2022, Ultomiris was approved by the FDA for the treatment of adult patients with generalized myasthenia gravis (bMG) who are anti-acetylcholine receptor (AChR) antibody positive. Alexion is also evaluating Ultomiris in a broad late-stage development program across many indications in neurology and nephrology. Alexion used our Xtend™ Fc Domain to enhance the half-life of Ultomiris to allow for a longer duration of action, less frequent dosing and reduced patient burden of therapy compared to the previous generation therapy, Soliris®.

- ***Monjuvi® (tafasitamab-cxix)***: In 2020, the FDA approved Monjuvi under accelerated approval. Monjuvi is a humanized Fc-modified CD19 targeting immunotherapy indicated in combination with lenalidomide for the treatment of adult patients with relapsed or refractory diffuse large B-cell lymphoma (DLBCL) not otherwise specified, including DLBCL arising from low grade lymphoma, and who are not eligible for autologous stem cell transplant (ASCT). This indication is approved under accelerated approval based on overall response rate. Continued approval for this indication may be contingent upon verification and description of clinical benefit in a confirmatory trial(s). In August 2021, the European Commission granted conditional marketing authorization for Minjuvi® (tafasitamab) in combination with lenalidomide, followed by tafasitamab monotherapy, for the treatment of adult patients with relapsed or refractory diffuse large B-cell lymphoma (DLBCL) who are not eligible for autologous stem cell transplantation (ASCT). MorphoSys and Incyte are also conducting studies of tafasitamab in additional B-cell indications. Tafasitamab was created and initially developed by us. Tafasitamab is co-marketed by Incyte and MorphoSys under the brand name Monjuvi in the U.S. and is marketed by Incyte under the brand name Minjuvi in Europe and Canada. Incyte has exclusive commercialization rights to tafasitamab outside the U.S. Monjuvi® and Minjuvi® are registered trademarks of MorphoSys AG.

Drug Candidates in Clinical Development

There are currently 21 clinical-stage drug candidates or marketed medicines that have been developed with one or more of our Fc technologies.

A partner is also advancing a drug candidate that incorporates our DN-TNF technology.

Wholly Owned	Co-developed with Partners	Developed by Partners	Marketed by Partners
Vudalimab	Plamotamab	Obexelimab	Ultomiris*
XmAb104	XmAb306/RG6323	VIR-3434	Monjuvi*
XmAb564		VIR-2482	Sotrovimab
XmAb819		AMG 509	
XmAb808		ASP2138	
		Novartis bispecific antibody	
		AIMab7195	
		Xpro1595/INB03	
		OMS906	

* Alexion and MorphoSys are conducting additional Phase 3 studies in new indications with these candidates.

We are also supporting investigator sponsored trials evaluating vibecotamab (CD123 x CD3) and XmAb968 (CD38 x CD3).

We regularly evaluate our portfolio of candidates and make additional investments in candidates with promising early-stage clinical data, partner out other candidates, and stop development of candidates where early clinical data does not support further investment. During 2022:

- We initiated a second Phase 2 study for our vudalimab program,
- We initiated Phase 1 studies for our XmAb819 and XmAb808 programs,
- We initiated a Phase1b study for our XmAb564 program, and
- We stopped development of the tidutamab and XmAb841 programs and also stopped development of our plamotamab, tafasitamab and lenalidomide combination study.

XmAb Bispecific Fc Drug Candidates in Clinical Development

Currently, 10 XmAb drug candidates that have been engineered with our XmAb bispecific Fc domain are in active clinical development internally or with our partners.

- Five candidates are wholly owned and are being evaluated by us in Phase 2 or Phase 1 studies;
- Two candidates are being co-developed with partners; and
- Three additional candidates are being advanced by partners.

Additional candidates are advancing through the preclinical stages of development. Drug candidates with our bispecific Fc domain, both bispecific antibodies and cytokines, in clinical development include:

Wholly Owned Development Candidates

1. *Vudalimab* is a bispecific antibody that targets PD-1 and CTLA-4, two immune checkpoint receptors, and is designed to promote tumor-selective T-cell activation. We are conducting a Phase 2 clinical study of vudalimab in patients with mCRPC, as a monotherapy or in combination depending on molecular subtype, and a Phase 2 clinical study in patients with advanced gynecologic malignancies and clinically defined high-risk mCRPC. We continue to enroll patients into these clinical studies.

2. *XmAb104* is a bispecific antibody that targets PD-1 and ICOS, an immune co-stimulatory receptor, and is being developed in multiple oncology indications. We are conducting a Phase 1 study to assess the safety, tolerability, and preliminary anti-tumor activity of XmAb104 in patients with selected solid tumors. Initial data reported in 2022 indicated XmAb104 was well tolerated and exhibited a distinct safety profile compared to other clinical-stage ICOS programs. We continue to enroll patients with select solid tumors in the dose expansion portion of the study, evaluating XmAb104 as a monotherapy and in combination with ipilimumab, an anti-CTLA4 antibody.

3. *XmAb564* is a monovalent, potency-reduced interleukin-2 Fc (IL-2-Fc) fusion protein, engineered to selectively activate and expand regulatory T cells (Tregs) for the potential treatment of patients with autoimmune diseases. XmAb564 is engineered with reduced binding affinity for IL-2's beta receptor and increased binding affinity for its alpha receptor. In a Phase 1a clinical study of XmAb564, a single dose of XmAb564, administered subcutaneously in healthy volunteers, was well tolerated and generated durable, dose-dependent and selective expansion of Tregs. We are conducting a randomized, double-blind, placebo-controlled Phase 1b clinical study to evaluate the safety and tolerability of multiple ascending doses of XmAb564, administered subcutaneously in patients with atopic dermatitis or psoriasis.

4. *XmAb819* is a first-in-class ENPP3 x CD3 XmAb 2+1 bispecific antibody that we are developing for patients with renal cell carcinoma (RCC). The XmAb 2+1 multivalent format enables greater selectivity for ENPP3 expressing tumor cells compared to normal cells, which also express ENPP3 at lower levels. We are conducting a Phase 1 study evaluating XmAb819 in patients with RCC.

5. *XmAb808* is a tumor-selective, co-stimulatory XmAb 2+1 bispecific antibody designed to bind to the broadly expressed tumor antigen B7-H3, and selectively to the CD28 T-cell co-receptor only when bound to tumor cells, which was demonstrated in *in vitro* studies. *In vivo* studies further demonstrated strong potentiation of checkpoint and CD3 cytotoxic activity. Xencor is conducting a Phase 1 study of XmAb808 in combination with pembrolizumab in patients with advanced solid tumors.

Candidates Co-Developed with Partners

6. *Plamotamab* is a bispecific antibody that targets CD20, an antigen on B-cell tumors, and CD3, an activating receptor on T cells. In October 2021, we entered into a global collaboration and license agreement with Janssen to advance plamotamab and XmAb CD28 bispecific antibody combinations for the treatment of patients with B-cell malignancies. Janssen received worldwide exclusive development and commercial rights to plamotamab, and we are collaborating with Janssen on further clinical development of plamotamab, with us paying 20% of costs. We are conducting a Phase 1 study of plamotamab in patients with non-Hodgkin's lymphomas, and we continue enrolling patients into subcutaneous dose escalation cohorts of this study.

7. *XmAb306 (RO7310729)* is a potency-reduced IL15/IL15-receptor alpha complex fused to our bispecific Fc domain (IL15/IL15Rα-Fc). The Fc domain also incorporates our Xtend technology for extended half-life. Xencor is co-developing the program in collaboration with Genentech, a member of the Roche Group. Genentech is conducting a Phase 1 study of XmAb306 as a single agent and in combination with atezolizumab in patients with advanced solid tumors. Genentech is also conducting two additional Phase 1 studies, evaluating XmAb306 in patients with relapsed/refractory multiple myeloma, either in combination with daratumumab (anti-CD38 antibody) or in combination with cevostamab (FcRH5 x CD3 bispecific antibody). We continue to support enrollment into these clinical studies.

Candidates Advanced by Partners

8. *AMG 509* is a STEAP1 x CD3 2+1 bispecific antibody that our partner Amgen is advancing for the treatment of patients with prostate cancer. The XmAb 2+1 multivalent format enables higher binding capability for STEAP1 expressing cells. Amgen is currently enrolling patients in a Phase 1 study of AMG 509 in patients with mCRPC. In February 2022, Amgen presented encouraging, preliminary pharmacodynamic activity by induction of percent maximum PSA decline among 30 patients in the study, which provides an early signal of activity and validation of the potential of the XmAb 2+1 format.

9. *ASP2138* is a Claudin-18.2 x CD3 2+1 bispecific antibody that our partner Astellas is advancing for the treatment of patients with gastric, gastroesophageal and pancreatic cancers and is currently being evaluated in a Phase 1 study. The XmAb 2+1 multivalent format enables higher binding capability for Claudin-18.2 expressing cells.

10. *Novartis XmAb undisclosed bispecific antibody candidate.* Novartis is conducting a Phase 1 clinical study with an undisclosed bispecific antibody candidate that was developed with our bispecific Fc technology under our collaboration with them.

XmAb, Xtend, and Cytotoxic Fc Drug Candidates in Clinical Development

Currently, two drugs engineered with our Xtend Fc Domain and one drug we engineered with our XmAb Cytotoxic Fc Domain are marketed commercially by partners. In addition to these approved drugs, our partners are advancing multiple clinical-stage programs with antibodies engineered with XmAb, Xtend, and/or Cytotoxic Fc Domains, including:

- Vir Biotechnology, Inc.: Vir is advancing two candidates in clinical development. VIR-3434 is being evaluated in a Phase 2 combination study as a potential treatment for patients with hepatitis B virus infection. VIR-2482 is being evaluated in a Phase 2 study as a universal prophylactic for influenza A.
- Gilead Sciences, Inc.: Gilead is supporting HIV candidates in clinical development that are broadly neutralizing antibodies that incorporate our Fc technologies; and
- Our partners are conducting preclinical studies of additional drug candidates engineered with these XmAb Fc domains.

Other Clinical Stage Drug Candidates

- *AIMab7195 (XmAb7195)* uses our XmAb Immune Inhibitor Fc Domain and is designed to reduce blood levels of IgE, which mediates allergic responses and allergic disease. In February 2020, we licensed this drug candidate to Aimmune Therapeutics, Inc., now a wholly owned subsidiary of Nestlé S.A., which is advancing the candidate in clinical studies for allergic indications.
- *Obexelimab* targets CD19 with its variable domain and uses our XmAb Immune Inhibitor Fc Domain, which is designed to inhibit the function of B cells, an important component of the immune system. In November 2021, we licensed this drug candidate to Zenas BioPharma, which initiated a Phase 3 study with obexelimab in January 2023 in immunoglobulin G4-related disease (IgG4-RD).
- *Xpro1595* is a proprietary TNF inhibitor candidate which we licensed to INmune Bio, Inc., in October 2017. INmune is currently advancing Xpro1595 through clinical development for patients with Alzheimer's disease, mild cognitive impairment and treatment-resistant depression.

Collaborations, Partnerships and Licensing Arrangements

A key part of our business strategy is to leverage our protein engineering capabilities, XmAb technologies, and XmAb drug candidates with partnerships, collaborations, and licenses. Through these arrangements we generate revenues in the form of upfront payments, milestone payments, and royalties. For partnerships for our drug candidates, we aim to retain a major economic interest in these candidates through transactions that allow us to retain major geographic commercial rights, provide for profit-sharing on future sales of approved products, include co-development options, and also the right to conduct independent clinical studies with drug candidates developed in the collaboration.

Examples of arrangements we have entered with our partners include:

- *Product Licenses:* Janssen Biotech, Inc., Genentech, MorphoSys AG, Nestlé S.A., Zenas BioPharma, INmune Bio, Inc.
- *Novel Bispecific Antibody Collaborations:* Janssen Biotech, Inc., Astellas Pharma, Inc., Amgen Inc., Novartis AG
- *Technology Licensing Agreements:* Alexion Pharmaceuticals, Inc., Vir Biotechnology, Inc., Gilead Sciences, Inc., Novartis AG, Omeros Corporation, Viridian Therapeutics, Inc., Astria Therapeutics, Inc.
- *Strategic Collaborations:* Atreca, Inc., The University of Texas MD Anderson Cancer Center, Caris Life Sciences

Product Licenses

Product licenses are arrangements in which we license to third parties partial or full rights to develop and commercialize our internally developed drug candidates. We seek partners that can provide infrastructure and resources to

successfully develop our drug candidates, have a track record of successfully developing and commercializing medicines, or have a portfolio of development-stage candidates and commercialized medicines which could potentially be developed in rational combinations with our drug candidates.

Janssen Biotech, Inc.

In October 2021, we entered into an agreement with Janssen Biotech, Inc. (Janssen) to develop, manufacture, and commercialize plamotamab and pursuant to which we, together, will conduct research and development activities to discover novel CD28 bispecific antibodies against undisclosed B cell tumor targets. Janssen will receive exclusive worldwide rights, subject to certain Xencor opt-in rights, to develop, manufacture and commercialize pharmaceutical products that contain one or more of such CD28 bispecific antibodies.

We received a $100.0 million upfront payment, and Johnson & Johnson Innovation, JJDC, Inc., purchased $25.0 million of newly issued unregistered shares of our common stock. In addition, we are eligible to receive milestone payments and royalties on net sales as follows:

- Plamotamab. We are eligible to receive up to a total of $517.5 million in milestone payments, which includes $120.0 million in development milestones, $137.5 million in regulatory milestones, and $260.0 million in sales milestones, as well as tiered royalties in the mid-teen to low-twenties percent range on net sales of products containing plamotamab, including CD28/plamotamab combination products.
- CD28 Licensed Antibodies. We are eligible to receive up to a total of $670.0 million in milestone payments, which includes an aggregate of $169.4 million in development milestones and $240.6 million in regulatory milestones. For any products containing CD28 bispecific antibodies, but excluding CD28/plamotamab combination products, we are eligible to receive $260.0 million in sales milestones, as well as tiered royalties in the high-single digit to low-double digit range on net sales.

We are collaborating with Janssen on further clinical development of plamotamab with Janssen paying 80% and the Company paying 20% of costs.

We are generally responsible for conducting research activities, and Janssen is generally responsible for all development, manufacturing, and commercialization activities for CD28 bispecific antibodies that are advanced. Independent of plamotamab development activities, upon clinical proof-of-concept for a CD28 bispecific antibody that is being developed outside of a plamotamab combination, we have the right to opt-in to fund 15% of development costs and, if we opt in to fund such development costs, to perform up to 30% of the detailing efforts in the United States. We would then be eligible for low-double digit to mid-teen percent royalties on net sales of those products. In January 2023, Janssen selected a CD28 candidate that we developed under the collaboration for further development.

Genentech

In February 2019, we entered into an agreement with Genentech to develop and commercialize novel IL-15 cytokine therapeutics that use our bispecific Fc technology, including XmAb306, declared as a Collaboration Product under the agreement. We are jointly collaborating on the worldwide development of XmAb306 with Genentech maintaining worldwide commercialization rights, subject to us having a co-promotion option in the U.S. We retain the right to perform clinical studies with XmAb306 at our sole expense in combination with other therapeutic agents, subject to certain restrictions. Genentech received a worldwide exclusive license to XmAb306.

We received an upfront payment of $120.0 million. We are eligible to receive up to $160.0 million in clinical milestone payments for XmAb306, up to $180.0 million in clinical milestone payments for each new Collaboration Product, and a 45% share of net profits from sales from all Collaboration Products, while also sharing in the net losses at the same percentage rate. We are sharing in 45% of development and commercialization costs of Collaboration Products, while Genentech will pay for commercial launch costs.

MorphoSys AG

In July 2020, the FDA approved Monjuvi® (tafasitamab-cxix) in combination with lenalidomide for treating certain patients with DLBCL, and the European Commission granted conditional marketing authorization to tafasitamab for treating certain patients with DLBCL, which is marketed as Minjuvi® in Europe, in August 2021. In 2010, we licensed exclusive worldwide rights to develop and commercialize tafasitamab (formerly MOR208 and XmAb5574) to MorphoSys.

Tafasitamab, which we engineered with an XmAb Cytotoxic Fc Domain, is the second XmAb medicine to be approved by the FDA.

In 2022, we earned royalties of $7.8 million on net sales. We are also eligible to receive up to $85.5 million in additional milestones for development of tafasitamab in additional oncology indications and $50.0 million in sales milestones across all indications. We are entitled to receive tiered royalties in the high-single digit to low-double digit percent range on net sales. Tafasitamab is co-marketed by Incyte and MorphoSys under the brand name Monjuvi® in the U.S., and is marketed by Incyte under the brand name Minjuvi® in Europe and Canada. Incyte has exclusive commercialization rights to tafasitamab outside the U.S.

Nestlé S.A./Aimmune Therapeutics, Inc.

In February 2020, we granted Aimmune Therapeutics, Inc., an exclusive worldwide license to develop and commercialize XmAb7195, which was renamed AIMab7195. Aimmune was subsequently acquired by Nestlé S.A. We received an upfront payment and we are eligible to receive development, regulatory and sales milestones and tiered royalties in the high-single to mid-teen percent range on net sales of approved products. Nestlé is responsible for all further development of AIMab7195 and is planning additional studies of the candidate.

INmune Bio, Inc.

In October 2017, we entered into an agreement with INmune Bio, Inc., for an exclusive license to our Xpro1595 drug candidate. In connection with the license, we received shares of INmune common stock, an option to acquire additional outstanding shares of INmune , and a second option to acquire additional shares of Inmune common stock. In 2021, we sold the initial option to INmune, and we received $15.0 million in cash proceeds and additional shares of INmune common stock. In 2021, we exercised the second option to acquire additional shares of common stock.

We are also eligible to receive a percentage of sublicensing revenue received for Xpro1595 and royalties in the mid-single digit percentage range on the sale of approved products. INmune is currently planning Phase 2 studies in Alzheimer's disease, mild cognitive impairment, and treatment-resistant depression, as Xpro1595; Phase 2 studies in patients with non-alcoholic steatohepatitis, as LIVNate; and additional studies in MUC4-positive cancers, as INB03.

Zenas BioPharma (Cayman) Limited

In November 2020, we entered into an agreement with Zenas BioPharma (Cayman) Limited (Zenas) to which we licensed the exclusive worldwide rights to develop and commercialize three preclinical-stage Fc-engineered drug candidates for autoimmune disease: XmAb6755, Xpro9523, and XmAb10171. These programs incorporate an Xtend Fc Domain, a Cytotoxic Fc Domain, or both. We received a 15% equity interest in Zenas, and we will also receive royalties on net sales of approved products in the mid-single digit to mid-teen percentage range.

In November 2021, we entered into a second agreement with Zenas to which we licensed the exclusive worldwide rights to develop and commercialize obexelimab, a bifunctional antibody that targets CD19 with its variable domain and uses our XmAb Immune Inhibitor Fc Domain. Zenas issued a warrant giving us the right to acquire additional Zenas equity, such that our total equity in Zenas would be 15% of its fully diluted capitalization following the closing of Zenas' next round of equity financing, subject to certain requirements. In 2022, Zenas completed a financing transaction, and we received additional shares in Zenas in exchange for the warrant such that our total ownership is equal to 15% of the fully diluted outstanding shares of Zenas. We are eligible to receive up to $470.0 million based on the achievement of certain clinical development, regulatory and commercialization milestones and are eligible to receive tiered, mid-single digit to mid-teen percent royalties upon commercialization of obexelimab, dependent on geography. Zenas will have sole responsibility for advancing the research, development, regulatory and commercial activities of obexelimab worldwide. In January 2023, Zenas initiated a Phase 3 study of obexelimab.

Novel Bispecific Antibody Collaborations

Novel bispecific antibody collaborations are arrangements in which our partner seeks to create an XmAb bispecific antibody using one or more of our bispecific technologies. Our partners provide an antibody or an antigen against tumors, and we conduct limited research and development activities to create potential bispecific antibody candidates for further development and commercialization by our partners.

Janssen Biotech, Inc.

In November 2020, we entered into an agreement, with Janssen Biotech, Inc. (Janssen), to develop XmAb bispecific antibodies against CD28 and an undisclosed prostate tumor target, for the potential treatment of patients with prostate cancer. Under the agreement, we conducted research activities to develop CD28 bispecific drug candidates for further development by Janssen. Preclinical activities and all clinical development, regulatory and commercial activities will be conducted by Janssen, which has exclusive worldwide rights to develop and commercialize the novel drug candidates developed in the collaboration. We received a $50.0 million upfront payment and are eligible to receive development, regulatory and sales milestones, and we are also eligible to receive tiered royalties in the high-single to low-double digit percentage range on net sales.

Upon development of a bispecific candidate by Janssen through proof of concept, the agreement provides us the right to opt-in to fund 20% of development costs and to perform up to 30% of detailing efforts in the U.S. If we exercise this right, we will be eligible to receive tiered royalties in the low-double digit to mid-teen digit percentage range.

Both we and Janssen also have the right to access predefined agents from each other's portfolios to evaluate potential combination therapies in prostate cancer, subject to certain limitations.

In 2021, Janssen selected a candidate developed under the agreement for further development and we received a milestone payment, and we are eligible to receive an additional $156.9 million in development milestones as the program advances.

Astellas Pharma, Inc.

In March 2019, we entered into an agreement with Astellas Pharma, Inc., under which we applied our XmAb bispecific Fc technology to an antigen pair provided by Astellas and generated bispecific antibody candidates for further certain characterization and testing. Astellas was granted a worldwide exclusive license, with the right to sublicense products in the field created by the research activities. Astellas has selected a bispecific antibody developed under the collaboration, ASP2138, a CLDN18.2 x CD3 XmAb 2+1 bispecific antibody, for further development to treat patients with gastric, gastroesophageal, and pancreatic cancers. We received an upfront payment and we are eligible to receive development, regulatory and sales milestones and royalties on net sales in the high-single to low-double digit percentage range. In 2022, we received a $5.0 million milestone payment related to Astellas advancing the ASP2138 candidate into Phase 1 studies, and we are eligible to receive an additional $25.0 million in development milestones as the program advances.

Amgen Inc.

In September 2015, we entered into an agreement with Amgen Inc. to develop and commercialize bispecific antibody product candidates using our proprietary XmAb bispecific Fc technology.

Amgen applied our XmAb bispecific Fc technology to create AMG 509, a STEAP1 x CD3 XmAb 2+1 bispecific antibody. We have received a total of $60.5 million in upfront and milestone payments and are eligible to receive up to $255.0 million in future development, regulatory and sales milestone payments in total for AMG 509 and royalties on net sales.

Novartis AG

In connection with our June 2016 agreement with Novartis, we applied our XmAb bispecific Fc technology to a target pair antibody selected by Novartis. Novartis is responsible for development and commercialization of the program. We are eligible to receive development, regulatory and sales milestone payments and royalties in the mid-single digit percent range on net sales of approved products. Novartis is conducting a Phase 1 study of an undisclosed bispecific antibody candidate.

Technology Licensing Agreements

We enter into technology licensing agreements in which we license access to one or more of our XmAb Fc technologies on a restricted basis, typically to our XmAb Cytotoxic Fc Domain and/or our Xtend Fc Domain. Our partners are responsible for all research, development and commercialization activities of the drug candidates. The plug-and-play

nature of XmAb Fc domains allows us to license access to our platforms with no internal research and development activities required of us.

Alexion Pharmaceuticals, Inc.

Ultomiris® (ravulizumab-cwvz) was the first antibody incorporating XmAb Fc technology to be approved by the FDA for commercial marketing. It is approved in the U.S. and multiple global markets for the treatment of patients with paroxysmal nocturnal hemoglobinuria (PNH) and for the treatment of patients with atypical hemolytic uremic syndrome (aHUS). Ultomiris is commercialized by Alexion Pharmaceuticals, Inc.

In 2013, we licensed Alexion the right to access our Xtend Fc domain, which Alexion used to develop an improved version of Alexion's commercialized Soliris product. The Xtend technology increased the circulating 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. During 2022, we recorded royalty revenue of $29.4 million. We are eligible to receive an additional $20.0 million in sales milestones and a low-single digit percent royalty on the sale of approved products.

Vir Biotechnology, Inc.

Sotrovimab, an antibody that targets the SARS-CoV-2 virus, has received an emergency use authorization from the FDA and temporary authorizations in multiple global markets for the treatment of mild-to-moderate COVID-19 in high-risk adults and pediatric patients. In March 2020, we entered into an agreement in which we provided Vir a non-exclusive license to our Xtend technology to extend the half-life of novel antibodies, including sotrovimab, that Vir is investigating as potential treatments for patients with COVID-19. Vir, along with alliance partner GlaxoSmithKline Plc, is responsible for all research, development, regulatory and commercial activities for COVID-19 antibodies, and we are eligible to receive royalties on the net sales of approved products in the mid-single digit percentage range. During 2022, we recorded royalty revenue of $114.9 million.

In August 2019, we entered into an agreement with Vir Biotechnology, Inc., in which we provided Vir a non-exclusive license to our Xtend technology for two targets in infectious disease. We have received a total of $2.0 million in upfront and milestone payments, and we are eligible to receive additional milestones of $154.0 million, including $4.0 million of development milestones, $30.0 million of regulatory milestones and $120.0 million of sales milestones. We are also eligible to receive royalties on the net sales in the low single digit percentage range. Vir has advanced two programs under this agreement. VIR-2482 is being evaluated in a Phase 2 study as a universal prophylactic for influenza A, and VIR-3434 is being evaluated in a Phase 2 combination study as a potential treatment for patients with hepatitis B virus infection.

Gilead Sciences, Inc.

In January 2020, we entered into an agreement with Gilead Sciences, Inc., in which we provided Gilead an exclusive license to our Cytotoxic Fc and Xtend Fc technologies for broadly neutralizing anti-HIV antibodies. Gilead is responsible for all development and commercialization activities. For each licensed antibody, we are eligible to receive up to $67.0 million in milestones, which includes $10.0 million in development milestones, $27.0 million in regulatory milestones, and $30.0 million in sales milestones. We are also eligible to receive royalties in the low-single digit percentage range on net sales of approved products.

Omeros Corporation

In August 2020, we entered into an agreement with Omeros Corporation, in which we provided Omeros a non-exclusive license to our Xtend Fc technology, an exclusive license to apply our Xtend Fc technology to an initial identified antibody, OMS906, and options to apply our Xtend Fc technology to three additional antibodies. Omeros is responsible for all development and commercialization activities. OMS906, a MASP-3 targeted antibody, is being evaluated in a Phase 1 study in patients with PNH and other alternative pathway disorders. We received an upfront payment and we are eligible to receive development, regulatory and sales milestones and we are also eligible to receive royalties in the mid-single digit percentage range on net sales of approved products.

Viridian Therapeutics, Inc.

In December 2020, we entered into an agreement with Viridian Therapeutics, Inc., in which we provided Viridian a non-exclusive license to our Xtend Fc technology and an exclusive license to apply our Xtend Fc technology to antibodies targeting IGF-1R. Viridian is responsible for all development and commercialization activities. We received shares of Viridian common stock valued at $6.0 million as an upfront payment and are eligible to receive development, regulatory and sales milestones and we are also eligible to receive royalties in the mid-single digit percentage range on net sales of approved products.

In December 2021, we entered into a second agreement with Viridian for a non-exclusive license to certain antibody libraries developed by us. Under the agreement, Viridian received a research license to review the antibodies and the right to select a limited number of antibodies for further development. Viridian is responsible for all further development of the selected antibodies. We received Viridian common stock valued at $7.5 million as an upfront payment and are eligible to receive development, regulatory and sales milestones in addition to royalties on net sales of approved products under the agreement.

Astria Therapeutics, Inc/Catabasis Pharmaceuticals, Inc./Quellis Biosciences, Inc.

In May 2018, we entered into an agreement with Quellis Biosciences, Inc., in which we provided Quellis a non-exclusive license to our Xtend Fc technology to apply to an identified antibody. Quellis is responsible for all development and commercialization activities. We received an equity interest in Quellis, and in January 2021, upon Quellis merging into Catabasis Pharmaceuticals, Inc., we received common and preferred shares of Catabasis stock in exchange for our equity in Quellis. Catabasis subsequently changed its name to Astria Therapeutics, Inc. In addition to equity shares in Astria, we are eligible to receive development, regulatory and sales milestones and we are also eligible to receive royalties in the mid-single digit percentage range on net sales of approved products.

Strategic Collaborations

We enter into strategic collaborations where we can create synergies between our partners' capabilities and assets and our own protein engineering capabilities, Fc technologies and XmAb drug candidates. Through these arrangements we seek to create new drug candidates, investigate novel combination therapies and potentially identify additional indications for our portfolio of XmAb drug candidates.

Atreca, Inc.

In July 2020, we entered into an agreement with Atreca, Inc., to research, develop and commercialize novel CD3 bispecific antibodies as potential therapeutics in oncology. During a three-year research term, Atreca will provide antibodies against novel tumor targets through its discovery platform from which we will engineer XmAb bispecific antibodies that bind to the CD3 receptor on T cells. The two companies will share research costs equally during the research term. Up to two joint programs are eligible to be mutually selected for further development and commercialization, with each partner sharing 50% of costs and profits. Each company has the option to lead development, regulatory and commercialization activities for one of the joint programs. In addition, each partner has the option to pursue up to two programs independently, with a royalty in the mid- to high-single digit percentage range payable on net sales to the other partner. In January 2023, we and Atreca selected a candidate to be developed under the collaboration.

The University of Texas MD Anderson Cancer Center

In September 2020, we entered into an agreement with MD Anderson, in which we will provide funding over a five-year period, and MD Anderson will collaborate to design and execute additional clinical studies with our portfolio of XmAb drug candidates, including novel bispecific antibody and cytokine candidates. We own all rights to the programs and results generated from these studies. In December 2021, we extended the agreement for an additional year at the same level of committed funding. MD Andersen is conducting clinical studies with our vudalimab candidate.

In December 2020, we entered into a second agreement with MD Anderson to develop novel CD3 bispecific antibody therapeutics for the potential treatment of patients with cancer. MD Anderson will work to identify and develop potential antibodies, and we will apply our Fc bispecific technology to create therapeutic candidates. MD Anderson will then conduct and fund all preclinical activities to advance candidates toward clinical studies. We have certain exclusive options to license worldwide rights to develop and commercialize potential new medicines arising from the collaboration.

Caris Life Sciences

In July 2022, we entered into an agreement with Caris Life Sciences (Caris), under which Caris will apply its proprietary end-to-end discover platform to identify novel targets for XmAb bispecific antibody drug candidates for the treatment of patients with cancer. We received exclusive options to research, develop and commercialize products directed up to three targets. Caris received an upfront payment and will be eligible to receive licensing fees, discovery, development, regulatory and sales-based milestones and royalty payments on net sales of each product commercialized by us and future rights for molecular profiling and companion diagnostics for drug candidates developed under the collaboration.

In December 2022, we expanded our Caris collaboration with a second agreement. The second agreement increased the number of targets that Caris will provide and also the tumor types that are being investigated. We paid Caris an upfront payment and Caris is eligible for additional licensing fees, milestones and royalty payments on net sales of each product commercialized by us.

Our Research and Development Pipeline

We have used our XmAb Fc platforms and protein engineering 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 bispecific antibody and cytokine candidates. We continue to advance 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 own proprietary technologies. These licenses may require us to pay upfront fees, development, and commercial milestone payments, and if commercial products are approved, royalties on net sales.

Human Capital Management

Our Employees and Commitment to Diversity, Equity, and Inclusion

Our ability to develop XmAb technologies, advance our programs into late-stage development, position our programs for commercialization and identify successful business partnerships is dependent on attracting, retaining, and developing our employees. We seek and support a diverse population of employees without regard to race, gender or sexual orientation. As of December 31, 2022, we had 281 full-time employees, representing an 11% increase in our employee workforce as compared to December 31, 2021. Of these, 233 were engaged in research and development activities, and 48 were engaged in business development, information systems, facilities, human resources, or administrative support. Of these employees, 70 hold Ph.D. degrees, and 10 hold M.D. degrees. None of our employees are represented by any collective bargaining unit. We believe we maintain good relations with our employees.

We are an equal opportunity employer and maintain policies that prohibit unlawful discrimination based on race, color, religion, gender, sexual orientation, gender identity/expression, national origin/ancestry, age, disability, marital and veteran status. We are proud to employ a diverse workforce that, as of December 31, 2022, was 60% non-white and 56% women. In addition, as of December 31, 2022, women made up 22% of our senior leadership team. We strive to build and nurture a culture where all employees feel empowered to be their authentic selves.

We seek to provide human capital and employee health and safety policies that provide for the health, safety, and welfare of our employees. We continue practices that address the COVID-19 pandemic consistent with government guidelines to mitigate and prevent the spread of disease, such as masking, social distancing, contact tracing, and encouraging vaccinations. In 2022, in connection with the ongoing pandemic we adopted the following practices:

- Provided a remote or hybrid work option for all non-laboratory staff with technical support, training, and equipment to enable employees to continue to perform their responsibilities while working remotely; and

- Conducted safety procedures for all onsite staff which included offering weekly onsite SARS-CoV-2 virus testing for all employees and their household members and providing paid time off for any employee that missed time due to the COVID-19 virus including for the care of family members.

Compensation, Benefits, and Development

We provide compensation packages designed to attract, retain, and motivate high-quality employees. All of our employees are eligible for cash bonuses and grants of equity awards. We regularly evaluate our compensation programs with an independent compensation consultant and utilize industry benchmarking in an effort to ensure they are competitive compared to similar biotechnology and biopharmaceutical companies with which we compete for talent and that they are fair and equitable across our workforce with respect to gender, race, and other personal characteristics. All employees are eligible to participate in the Employee Stock Purchase Plan where they can purchase shares of Xencor common stock at a discounted price. This plan, and our other equity compensation plans, assists us in building long-term relationships with our employees and aligns the interest of employees with stockholders. We also deliver a benefits program that is designed to keep our employees and their families healthy, which includes not only medical, dental and vision benefits, but also dependent care, mental health, and other wellness benefits. In addition, we provide a variety of programs and services to help employees meet and balance their needs at work, at home and in life.

We value career development for all employees, and we provide reimbursement and time for employees to attend professional development courses ranging from technical training, competency-based workshops, and leadership development programs. Direct managers also take an active role in identifying individualized development plans to assist their employees in realizing their full potential and creating opportunities for promotions and added responsibilities that enhance the engagement and retention of our workforce.

Market Opportunity

Our drug candidates that use the XmAb bispecific Fc domain, including plamotamab, vudalimab, XmAb104, XmAb306, XmAb819, XmAb808, and XmAb564: We are developing our bispecific antibody and cytokine candidates to treat cancer and autoimmune diseases. 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 2023 there will be approximately 2.0 million new cases of cancer and approximately 609,820 deaths from cancer. The National Institutes of Health (NIH) has estimated that based on growth and aging of the U.S. population, medical expenditures for cancer in the year 2030 are projected to reach at least $245.6 billion.

We are evaluating XmAb564 as a potential treatment for patients with autoimmune diseases. The autoimmune disease therapeutic market generally presents an opportunity in various small and large market indications, some of which may be appropriate for XmAb564. Autoimmune diseases represent the third most common cause of chronic illnesses in the United States. The National Institutes for Health (NIH) estimates that they collectively affect between 5% and 8% of the US population and currently more than 50 million Americans have one or more autoimmune diseases. Globally, the autoimmune disease therapeutics market was estimated to be $92 billion in 2022 (GlobalData).

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 and cytokine therapeutics. We combine proprietary computational methods for amino acid sequence design with laboratory generation and testing of new antibody and cytokine 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, antibody product candidates, and cytokine product candidates.

Our patent estate, on a worldwide basis, includes over 1,400 issued patents and pending patent applications which we own, with claims directed to XmAb Fc domains, all of our clinical and preclinical stage product candidates 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 (ex-U.S.) for our key technologies and drug candidates is set forth below. We have pending applications filed that may extend the exclusivity of some of our technology and products:

Technology	Patent Expiry
Cytotoxic	2025 U.S.; 2024 Ex-U.S.
Immune Inhibitor	2028 U.S.; 2025 Ex-U.S.
Xtend	2025 U.S.; 2028 Ex-U.S.
Bispecific	2034 U.S. and Ex-U.S.
CD3 T Cell Engagers	2035 U.S. and Ex-U.S.
CD28 T Cell Engagers	2041 U.S. and Ex-U.S.

Company Products	Patent Expiry
XmAb808	2041 U.S, and Ex-U.S.
Vudalimab, XmAb104	2037 U.S. and Ex-U.S.
XmAb564	2038 U.S. and Ex-U.S.
XmAb819	2040 U.S. and Ex-U.S.
XmAb306	2038 U.S.; 2037 Ex-U.S.

Partnered Products	Patent Expiry
Monjuvi (tafasitamab)	2029 U.S.; 2027 Ex-U.S.
Ultomiris	2025 U.S.; 2028 Ex-U.S.
AIMab7195 (XmAb7195)	2029 U.S. and Ex-U.S.
Sotrovimab	2025 U.S.; 2028 Ex-U.S.
Obexelimab (XmAb5871)	2029 U.S.; 2028 Ex-U.S.
Plamotamab	2035 U.S. and Ex-U.S.

The Hatch-Waxman Act permits a patent term extension for FDA-approved drugs, including biological products, of up to five years beyond the expiration of the patent. The length of the patent term extension is related to the length of time the drug is under regulatory review. Patent extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval and only one patent applicable to an approved drug may be extended. Similar provisions are available in Europe and other jurisdictions to extend the term of a patent that covers an approved drug. In the future, if and when our pharmaceutical product candidates receive FDA approval, we expect to apply for patent term extensions on patents covering those products. We intend to seek patent term extensions to any of our issued patents in any jurisdiction where these are available; however, there is no guarantee that the applicable authorities, including the FDA in the United States, will agree with our assessment of whether such extensions should be granted, and even if granted, the length of such extensions.

The Patient Protection and Affordable Care Act, as amended by the Healthcare and Education Affordability Reconciliation Act (collectively the ACA) created a regulatory scheme authorizing the FDA to approve biosimilars via an abbreviated licensure pathway. In many cases, this allows biosimilars to be brought to market without conducting the full suite of clinical trials typically required of originators. Under the ACA, a manufacturer may submit an application for licensure of a biologic product that is "biosimilar to" or "interchangeable with" a previously approved biological product or "reference product." The "biosimilar" application must include specific information demonstrating bio similarity based on data derived from: (1) analytical studies, (2) animal studies, and (3) a clinical study or studies that are sufficient to demonstrate safety, purity, and potency in one or more appropriate conditions of use for which the reference product is licensed, except that FDA may waive some of these requirements for a given application. Under this new statutory scheme, an application for a biosimilar product may not be submitted to the FDA until four years after the date of first licensure. The FDA may not approve a biosimilar product until 12 years from the date on which the reference product was first licensed. The law does not change the duration of patents granted on biological products. Even if a product is considered to be a reference product eligible for exclusivity, another company could market a competing version of that product if the FDA approves a full Biologics License Application (BLA) for such product containing the sponsor's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity, and potency of their product. There have been recent proposals to repeal or modify the ACA, and it is uncertain how any of those proposals, if approved, would affect these provisions.

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. We currently have registrations for Xencor and XmAb in the United States, Australia, Canada, the European Union, the United Kingdom, and Japan, and for Proteins by Design in the United States, Australia, Canada, and the European Union and the United Kingdom.

Third Party Vendors and Suppliers

Our internal research activities are focused on early research stage and preclinical activities and studies. We rely on third party vendors, suppliers and contractors for all other research, development and clinical activities. 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 relying 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 antibody and cytokine development candidates. We have used third party manufacturers for all our bispecific antibody and cytokine candidates which include: plamotamab, vudalimab, XmAb104, XmAb306, XmAb564, XmAb819 and, XmAb808. 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. 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.

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 antibody and cytokine development candidates: plamotamab, vudalimab, XmAb104, XmAb306, and XmAb564 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 is less than 1%.

Selexis has manufactured cell lines for certain of our bispecific antibody and cytokine drug candidates, and we currently have rights to obtain commercial licenses to the Selexis cell line for the following bispecific antibody and cytokine candidates: plamotamab, vudalimab, XmAb104, XmAb306, XmAb564, and XmAb819.

License Agreement with BIO-TECHNE

In February 2018, we entered into an agreement with BIO-TECHNE for a non-exclusive license to a certain recombinant monoclonal antibody reactive with human programmed death protein, PD-1. 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 is 1%.

Umbrella Development Services Agreement with Patheon Biologics LLC

In September 2018, we entered into an Umbrella Development Services Agreement (Patheon Agreement) with Patheon Biologics LLC (Patheon). Under the terms of the Patheon Agreement, any of the affiliates within the global network of service sites in Thermo Fisher Scientific Inc.'s Pharma Services Group may perform clinical manufacturing and development services for us in accordance with cGMP regulations. The Patheon Agreement may be terminated by either party for a breach or default that is not remedied within 30 days, or such other time period as may be reasonably necessary to remedy such breach after receiving notice of the breach from the non-breaching party or if the other party is subject to an insolvency event. We have the unilateral right to terminate the Patheon Agreement upon 30 days written notice to Patheon for any business reason, subject to cancellation fees. Patheon has the unilateral right to terminate the Patheon Agreement if we request to reschedule work beyond 120 days, the project work is not progressing according to our expectations and we cannot agree on appropriate changes, after six months of inactivity on a project at our request or if Patheon determines it is unable to perform its obligations in a safe and effective way in compliance with applicable regulatory requirements.

Patheon is currently manufacturing drug substance material for our XmAb819 program.

Master Services Agreement with WuXi Biologics (Hong Kong) Limited

In February 2021, we entered into a Master Services Agreement (WuXi Agreement) with WuXi Biologics (Hong Kong) Limited (WuXi). Under the terms of the WuXi Agreement, WuXi and its affiliates will perform manufacturing, analytical, development and other services for Xencor in accordance with applicable regulations. The WuXi Agreement includes customary rights to replacement of non-conforming products. The WuXi Agreement may be terminated by either party for a breach by the other party that is not remedied within 45 days (or 10 days for a non-payment breach), or if the other party is subject to an insolvency event. We have the unilateral right to terminate the WuXi Agreement upon 90 days' prior written notice to WuXi for any reason, subject to applicable cancellation fees. WuXi has the unilateral right to terminate the WuXi Agreement only if the services cannot be performed due to technical difficulties or the performance of the services is not permitted under applicable law.

WuXi is currently manufacturing drug substance and drug product for XmAb808 and XmAb662.

Master Clinical Services Agreement with ICON Clinical Research Limited

In April 2016, we entered into a Master Clinical Services Agreement (ICON Agreement) with ICON Clinical Research Limited (ICON). Under the terms of the ICON Agreement, ICON and its affiliates will perform clinical trial services (including site selection, study design, site monitoring, management and training, and patient selection) for Xencor in accordance with applicable regulations. The ICON Agreement may be terminated by either party for a breach by the other party that is not remedied within 30 days, or if the other party is subject to an insolvency event. Each party may terminate the ICON Agreement upon 30 days' prior written notice to the other party for any reason, however such termination would not affect any ongoing project under the ICON Agreement. We may unilaterally terminate any project under the ICON Agreement upon 30 days' prior written notice to ICON for any reason, subject to applicable termination fees.

ICON is currently providing services to us in connection with ongoing Xencor-sponsored clinical trial that target oncology indications.

Master Services Agreement with Innovaderm Research, Inc.

In April 2022, we entered into a Master Services Agreement (Innovadrem Agreement) with Innovaderm Research, Inc. (Innovaderm). Under the terms of the Innovaderm Agreement, Innovaderm will perform clinical trial management and clinical development services (including site selection, study design, site monitoring, management and training, and patient

selection) for Xencor in accordance with applicable regulations. The Innovaderm Agreement may be terminated by either party for a breach upon fifteen (15) day written notice, if such breach is not cured within thirty (30) days. We may terminate the Innovaderm Agreement upon thirty (30) days written notice to Innovaderm for any reason, however, we will be obligated for any costs incurred through the cancellation date and any non-refundable and non-cancellable commitments incurred by Innovaderm.

Innovaderm is currently conducting clinical studies for our XmAb564 program.

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 cytokines, 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, more effectively developed, or more effectively marketed and sold than any treatment we or our development partners may commercialize, which 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 hundreds of compounds in clinical trials. Many large pharmaceutical companies and other smaller biotechnology companies are developing competing bispecific antibody platforms, and many of these companies have advanced multiple drug candidates into clinical development, including Amgen Inc.; Genmab A/S; Macrogenics, Inc.; Merus N.V.; Regeneron Pharmaceuticals, Inc.; and Roche Holding AG.

We are developing bispecific antibody drug candidates engineered to direct cytotoxic T cell killing of tumor cells, by engaging the CD3 receptor on T cells and an antigen on tumor cells. Other companies conducting clinical trials to evaluate CD3 bispecific antibodies directed to antigens expressed on tumors include AbbVie Inc.; Amgen Inc.; Genmab A/S; IGM Biosciences, Inc.; Johnson & Johnson; Novartis AG; Pfizer, Inc.; Regeneron Pharmaceuticals, Inc.; and Roche Holding AG. Other antibodies, antibody drug candidates and cell therapies are in development or approved to treat patients with cancer.

We are also developing several bispecific antibody drug candidates engineered to selectively engage the immune system in order to treat patients with cancer. Immuno-oncology is a competitive field within the biotechnology and pharmaceutical industries, and most large pharmaceutical companies are developing drug candidates, have marketed medicines in this space, or both: AstraZeneca plc; Bristol-Myers Squibb Company; GlaxoSmithKline plc; Merck & Co., Inc.; Novartis AG; Pfizer Inc.; Roche Holding AG; and Sanofi S.A. While tuning the binding affinities plays a crucial role in designing the mechanism of action for this class of bispecific antibody, smaller companies advancing clinical programs that, like vudalimab, dually target the immune checkpoint receptors PD-1 and CTLA-4 include Akeso, Inc. and Macrogenics, Inc.

Several companies are developing engineered cytokines intended to activate specific immune cell populations in order to treat patients with cancer and/or autoimmune diseases, including Alkermes plc; Amgen Inc.; Asher Biotherapeutics, Inc.; Cue Biopharma, Inc.; Eli Lilly and Company; IGM Biosciences, Inc.; ImmunityBio, Inc.; Kadmon Holdings, Inc.; Medicenna Therapeutics Corp.; Merck & Co., Inc.; Nektar Therapeutics, Inc.; Neoleukin Therapeutics, Inc.; Roche Holding AG; Sanofi S.A.; Sotio Biotech; Sutro Biopharma, Inc.; Synthekine, Inc.; and Xilio Therapeutics, Inc.

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

We are subject to extensive regulation by the U.S. and other countries. Regulation by government authorities is a significant factor in development, manufacture, distribution and ongoing research activities. All our products in development will require regulatory approval by government agencies prior to commercialization. In particular, drugs and biologic products are subject to rigorous preclinical studies and clinical trials and other approval procedures of the FDA and similar regulatory authorities in foreign countries. The process of obtaining these approvals and the subsequent compliance with appropriate federal and state statutes and regulations require the expenditure of substantial time and financial resources. Various federal and state statutes and regulation also govern or influence testing, manufacturing, safety, labeling, storage, tracking, tracing and record-keeping of drugs and biologic products and their marketing.

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 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. Phases of clinical development include:

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.

4. *Post Approval.* Clinical trials or other post-approval commitments may be conducted after initial marketing approval. These studies are used to gain additional experience from the treatment of patients in the intended therapeutic indication and may be required by the FDA as a condition of approval.

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 submission is two months.

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

Once accepted, 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.

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.

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.

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.

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.

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. 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 (SEC). The SEC maintains an internet site at www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

Item 1A. Risk Factors.

Summary of Risk Factors

We are subject to a number of risks that if realized could materially harm our business, prospects, operating results, and financial condition. Some of the more significant risks and uncertainties we face include those summarized below. The summary below is not exhaustive and is qualified by reference to the full set of risk factors set forth in this "Risk Factors" section. Please carefully consider all of the information in this Form 10-K, including the full set of risks set forth in this "Risk Factors" section, and in our other filings with the U.S. Securities and Exchange Commission before making an investment decision regarding Xencor.

We have reviewed our risk factors and categorized them into five specific categories:

1. Risks related to our unique and specific business operations as a small biotechnology company. These risks include:

    - Our success depends on our ability to use and expand our XmAb technology platform to build a pipeline of XmAb product candidates and develop marketable products. We cannot be certain our candidates will receive regulatory approval or be successfully commercialized.
    - 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.
    - Preliminary, interim, and topline data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.
    - The COVID-19 pandemic and the future outbreak of other highly infectious or contagious diseases could materially and adversely impact or disrupt our business and our financial condition, results of operations, cash flows and performance.
    - The risk of rising inflation in the United States and globally could materially and adversely impact or disrupt our business and our financial condition, results of operations, cash flows and performance.

2. Risks specifically related to our financial position, capital requirements and ownership of our common stock. These risks include:

    - We have incurred significant losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future.
    - 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 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.
    - The market price of our common stock is likely to be highly volatile, and you could lose all or part of your investment.
    - 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.
    - 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.
    - 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.

3. Risks related to our intellectual property. These risks include:

    - 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.
    - We have in-licensed, and may in the future in-license, a portion of our intellectual property, and, if we fail to comply with our obligations under these arrangements, we could lose such intellectual property rights or owe damages to the licensor of such intellectual property.
    - We may be required to reduce the scope of our intellectual property due to third party intellectual property 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.
    - 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.
    - If we do not obtain patent term extension and data exclusivity for any therapeutic candidates we develop, our business may be materially harmed.

4. Risks related to our dependence on third parties. These risks include:

    - Our patent protection and prosecution for some of our product candidates is dependent on third parties.

- We rely on third-party manufacturers for the manufacture of our product candidates. This entails a complex process 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 otherwise fail to comply with their contractual obligations, the development or commercialization of our product candidates could be delayed or stopped.
- 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.
- 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 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.

5. Risks related to our industry. These risks include:

- Clinical trials are expensive and take years to conduct, and the outcome of such clinical trials is uncertain. Clinical trials may fail to prove our product candidates are safe and effective. This could lead to delays, downsizing or termination of clinical development plans for any our product candidates.
- 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.
- 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.
- Our industry is subject to competition for skilled personnel and the challenges we face to identify and retain key personnel could impair our ability to effectively conduct and grow our operations.
- 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.
- We face significant competition from other biotechnology and pharmaceutical companies and our operating results will suffer if we fail to compete effectively.
- 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.
- Present 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.
- 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 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.

Risks Related to Our Unique and Specific Business Operations as a Small Biotechnology Company

Our success depends on our ability to use and expand our XmAb technology platform to build a pipeline of product candidates and develop marketable products. We cannot be certain our candidates will receive regulatory approval or be successfully commercialized.

We use 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, most of the programs are in early stages of development. Although drug candidates incorporating our Fc technology, or Fc candidates, have been approved by the FDA, other product candidates have not yet been, and may never lead to, approved or marketable therapeutic antibody products. Even if we are successful in continuing to build our pipeline, the potential 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 receive marketing approval and achieve market acceptance. If we do not successfully develop and commercialize product candidates, 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.

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 raising capital, staffing our company, developing our proprietary XmAb technology platform, identifying potential product candidates, conducting preclinical studies and clinical trials, developing partnerships and business planning. We have conducted, or are currently conducting, early phase clinical trials for several product candidates, 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 believe we will need to transition from a company with a research and development focus to a company capable of supporting commercial activities. We may not be successful in this 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.

Preliminary, interim, and topline data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publicly disclose preliminary, interim or topline data from our clinical trials. These updates are based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. Additionally, interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Therefore, positive interim results in any ongoing clinical trial may not be predictive of such results in the completed study or trial. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the preliminary results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Preliminary data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, preliminary, interim or topline data should be viewed with caution until the final data are available. In addition, we may report interim analyses of only certain endpoints rather than all endpoints. Adverse changes between preliminary or interim data and final data could significantly harm our business and prospects. Further, additional disclosure of interim data by us or by our competitors in the future could result in volatility in the price of our common stock. See the description of risks under the heading “Risks Specifically Related to Our Financial Position, Capital Requirements and Ownership of Our Common Stock” for more disclosure related to the risk of volatility in our stock price.

Further, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product and our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is typically selected from a more extensive amount of available information. You or others may not agree with what

we determine is the material or otherwise appropriate information to include in our disclosure, and any information we determine not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product, product candidate or our business. If the preliminary or topline data that we report differ from late, final or actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize our product candidates may be harmed, which could harm our business, financial condition, results of operations and prospects.

The COVID-19 pandemic and the future outbreak of other highly infectious or contagious diseases, could materially and adversely impact or disrupt our business and our financial condition, results of operations, cash flows and performance.

On March 11, 2020, the World Health Organization (WHO) declared the rapid spread of COVID-19 a global pandemic, and on March 19, 2020, the Governor of the State of California, where we are headquartered and where our principal place of business is located, implemented a mandatory stay at home order for residents working in non-critical businesses.

While we have managed to maintain our operations during the COVID-19 pandemic, additional developments with this pandemic or another epidemic or pandemic, could cause significant disruptions to our business operations, business operations of our partners, on whom we rely for potential revenue, and product development collaborations; operations of our third-party manufacturers and contract research organizations (CROs), on which we rely to conduct our clinical trials; and to our clinical trials, including as a result of significant restrictions or bans on travel into and within the countries in which our manufacturers produce our product candidates or where we conduct our clinical trials. Such disruptions could impede, delay, limit or prevent our employees and CROs from continuing research and development activities.

Although the COVID-19 pandemic has not materially affected our clinical development for the year ended December 31, 2022, certain of our clinical programs have seen slower enrollment and there have also been delays in initiating new studies as a result of the COVID-19 pandemic. These delays are not seen across all our trials and are specific to certain trials enrolling at certain sites. In the future, the COVID-19 pandemic could further adversely affect our and our partners' ability to enroll and recruit patients in current and future clinical trials. Our success is dependent on our ability and the ability of our partners to advance our wholly-owned and partnered development programs into later stages of clinical development. Many pharmaceutical and biotechnology companies have indicated that their clinical trials will be delayed and enrollment of current and ongoing trials will suffer as a result of the COVID-19 pandemic. Completion of our ongoing clinical and preclinical studies or commencement of new clinical trials could be impeded, delayed, limited or prevented by the effects of the COVID-19 pandemic and related restrictions including negative effects on the production, delivery or release of our product candidates to our clinical trial sites, as participation by our clinical trial investigators, patients or other critical staff, which to could delay data collection, analysis and other related activities, any of which could cause delay or denial of regulatory approval of our product candidates. The delay and impact on enrollment cannot be determined at this time and will depend on the length and severity of the COVID-19 pandemic. Continued delays on our clinical and preclinical studies or trials will increase our costs and expenses and seriously harm our operations and financial condition, which will adversely affect our business.

The COVID-19 pandemic could also potentially affect the business of the FDA as well as other health regulatory authorities, which could result in delays in our communications with these authorities and ultimately in the ability for us and our partners to have drug products approved.

The COVID-19 pandemic and mitigation measures also have had an adverse impact on global economic conditions which could have an adverse effect on our business and financial condition, including impairment of our ability to raise capital when needed. The trading prices for biopharmaceutical companies' stock, including our common shares have been highly volatile as a result of the COVID-19 pandemic. In addition, a recession, depression, or other sustained adverse market event resulting from the COVID-19 pandemic could materially and adversely affect our business and the value of our common shares.

The COVID-19 pandemic could potentially affect our partnerships and collaborations which provide us with revenue and non-dilutive payments in the form of upfront payments, milestone payments, royalties, and cost-sharing of co-development programs. If our partners' and collaborators' operations are severely affected by the COVID-19 pandemic, it will adversely affect our future potential revenue from such partners and collaborators.

During 2020 and 2021, we required most of our employees, including all of our administrative employees, to work remotely, restricted on-site staff to only those employees that must perform essential activities that must be completed on-site and limited the number of staff allowed in our laboratory and offices. During 2022, we returned to on-site activity for all employees with some continuing to work in a hybrid manner. If there is a resurgence of COVID-19 related illnesses due to the emergence of new variants of the disease, this could negatively affect our employees and our ability to continue onsite operations.

In prior years, the COVID-19 pandemic adversely affected our supply chain for our research, development, and clinical programs. We rely on third party vendors for research supplies, development activities including manufacturing of drug product for our clinical studies and testing of drug material. In 2020, several manufacturing vendors notified us of critical supply shortages which delayed the development timelines for our earlier stage development programs. These supply shortages did not delay the timelines for our programs that were already in clinical studies. However, if there is resurgence of Covid-19 related illnesses, our supply chain could again be negatively affected which could potentially delay our development programs and research activities.

The COVID-19 pandemic continues to rapidly evolve. Its ultimate impact on our business operations is highly uncertain and subject to change that will depend on future developments, which cannot be accurately predicted, including the duration of the COVID-19 pandemic, additional or modified government actions, new information that will emerge concerning the severity and impact of COVID-19 and the actions taken to address its impact in the short and long term, among others. We do not yet know the full extent of potential delays or impacts on our business, our clinical trials, our research programs, healthcare systems or the global economy. We will continue to monitor the situation closely.

Our business and results of operations could be adversely impacted by inflation

The Company's financial performance is subject to global and US economic conditions. Recent increases in interest rates and inflation, globally, and in the US regions, have led to economic volatility, increased borrowing costs, price increases and risks of recessions. Economic recessions may have adverse consequences across industries, including the biotechnology industry, which may adversely affect the Company's business and financial condition. As a result of the ongoing actions taken by governments to attempt to slow down rising inflation, there is substantial uncertainty about the strength of the global economies, which may currently or in the near term be in a recession and have experienced rapid increases in uncertainty about the pace of potential recovery. In addition, changes in general market, economic and political conditions in domestic and foreign economies or financial markets, including fluctuation in stock markets resulting from, among other things, trends in the economy and inflation, as are being currently experienced, may adversely impact our cash runway as well as our ability to raise funds.

Risks Specifically Related to Our Financial Position, Capital Requirements and Ownership of Our Common Stock

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 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, 2022, we incurred a net loss of $(55.2) million and as of December 31, 2022, we had an accumulated deficit of $338.3 million. We expect to incur additional net 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 and cytokine 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 are still in the early stages of developing our product candidates, and we have not completed development of any of our wholly-owned products. Our revenue to date has been primarily revenue from the license of our proprietary XmAb

technology platform and drug candidates 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 and market, product candidates. We do not anticipate generating revenues from sales of our own products in the foreseeable future that will provide sufficient proceeds to fund our operations on an ongoing basis.

Our ability to generate future revenues from licensing our proprietary XmAb technologies and drug candidates depends heavily on our and our partners' success in advancing drug candidates that they have licensed from us or developed using one of our technologies. Our partners face the same development, regulatory and market risk for advancing their drug candidates and their ability to successfully advance these partnered programs will affect potential milestones and royalties we could earn under our collaboration agreements. Further, our partners may decide not to pursue, or decide to deprioritize our programs due to changing priorities which could affect our future potential revenue from such arrangements.

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 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' completion of clinical trials or delays in the development of any of our 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.

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, 2022, we had $613.5 million in cash, cash equivalents, marketable debt securities, and receivables. We expect our expenses to increase in connection with our ongoing development activities, including the continued development of our pipeline of bispecific antibody and cytokine drug candidates 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 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, cash equivalents and marketable securities, together with interest thereon and expected milestones and royalty payments will be sufficient to fund our operations through the end of 2025. 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. 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 our current product candidates 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 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 $58.345. Our stock price could be subject to wide fluctuations in response to a variety of factors, including the following:

1. adverse results or delays, or cancellations of clinical trials by us or our partners;
2. inability to obtain additional funding;
3. changes in laws or regulations applicable to our products;
4. inability to obtain adequate product supply for our product candidates, or the inability to do so at acceptable prices;
5. adverse regulatory decisions;
6. changes in the structure of healthcare payment systems;
7. introduction of new products or technologies by our competitors;
8. failure to meet or exceed product development or financial projections we provide to the public;
9. the perception of the pharmaceutical and biotechnology industry by the public, legislatures, regulators and the investment community;
10. announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us or our competitors;
11. disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
12. additions or departures of key scientific or management personnel;
13. significant lawsuits, including patent or stockholder litigation;
14. changes in the market valuations of similar companies;
15. sales of our common stock by us or our stockholders in the future; and
16. 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, 2022 our executive officers, management, directors, 5% stockholders and their affiliates beneficially owned, as a group, approximately 71.1% of our voting stock.

Therefore, our officers, directors and 5% stockholders and their affiliates 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. 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.

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. 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 until 2023 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, 2022, we had options to purchase 10,082,642 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 14,792,799 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.

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.

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 Tax Cuts and Jobs Act of 2017 (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, 2021, 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. It is also possible that we have in the past undergone, and in the future may undergo, ownership changes 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. 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.

New federal and state income tax legislation may affect our current and future income tax liabilities

The TCJA changed the income tax treatment of research and development expenses which may result in additional federal and state tax liabilities. For tax years ended in December 31, 2022 and subsequent years, research and development costs must be capitalized and amortized over a period of years which could result in additional federal and state tax liabilities in 2022 and future years.

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.

Risks Related 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, 2022, we held over 1,400 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 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.

We have in-licensed, and may in the future in-license, a portion of our intellectual property, and, if we fail to comply with our obligations under these arrangements, we could lose such intellectual property rights or owe damages to the licensor of such intellectual property.

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, and we may enter into additional license agreements in the future. As part of our discovery and development activities, we routinely evaluate in-licenses from academic and research institutions. We have sublicensed certain intellectual property rights related to our CD3 bispecific technology from a third party. 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.

Our existing license agreements impose, and we expect that future license agreements will impose, various diligence, milestone payment, royalty and other obligations on us. If there is any conflict, dispute, disagreement or issue of non-performance between us and our licensing partners regarding our rights or obligations under the license agreements, including any such conflict, dispute or disagreement arising from our failure to satisfy payment obligations under any such agreement, we may owe damages, our licensor may have a right to terminate the affected license, and our and our partners' ability to utilize the affected intellectual property in our drug discovery and development efforts, and our ability to enter into collaboration or marketing agreements for an affected product or therapeutic candidate, may be adversely affected.

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, 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 review. 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 patents owned by Merus B.V. (Merus) that may relate to and claim components of our bispecific antibody product candidates and partnered bispecific product candidates, including plamotamab, vudalimab, XmAb104, and XmAb819 will putatively expire in 2033. We are additionally aware of several patents and pending applications directed to the use of IL-15 fused with Fc domains, and in some cases in combination with targeting domains, that might be relevant to XmAb306, with putative expirations ranging from 2025 to later than 2032. 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 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. We believe there exists reasonable arguments of invalidity for the Merus patents and the IL-15 patents; however, we cannot assure that if challenged in litigation for infringement of these patents that we would prevail. 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.

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.

If we do not obtain patent term extension and data exclusivity for any therapeutic candidates we develop, our business may be materially harmed.

Depending upon the timing, duration, and specifics of any FDA marketing approval of any therapeutic candidates we may develop, one or more of our owned or licensed U.S. patents may be eligible for limited patent term extension under the Hatch-Waxman Act. Similar extensions as compensation for patent term lost during regulatory review processes are also available in certain foreign countries and territories, such as in Europe under a Supplementary Patent Certificate. However, we may not be granted an extension in the United States and/or foreign countries and territories because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents, or otherwise failing to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or the term of any such extension is shorter than what we request or we fail to choose the most optimal patents to extend, our competitors may obtain approval of competing products

following our patent expiration, and our business, financial condition, results of operations and prospects could be materially harmed.

Risks Related to Our Dependence on Third Parties

Our patent protection and prosecution for some of our product candidates is dependent on third parties.

While we normally seek and gain the right to fully prosecute the patents relating to our product candidates, there may be times when patents relating to our product candidates are controlled by our licensors.

We rely on third-party manufacturers for the manufacture of our XmAb-engineered antibodies. This entails a complex process 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 otherwise fail to comply with their contractual obligations, 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.

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 Janssen, Genentech, Vir, 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. For example, in 2021, Novartis notified us of its decision to return the rights to vibecotamab to us under the terms of the Novartis Agreement, and in 2020, Amgen notified us of its decision to return the rights to AMG 424 to us under the terms of the Amgen Agreement;
2. our Janssen Agreement provides for cost-sharing on development costs for the bispecific candidate, plamotamab. Such an arrangement may require us to incur substantial costs in excess of our available resources;
3. our Genentech Agreement requires that we fund 45% of worldwide development costs of XmAb306 and other IL-15 candidates. Such an arrangement may require us to incur substantial costs in excess of available resources;
4. 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;
5. 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;
6. 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;
7. 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;
8. 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;
9. 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;
10. collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
11. collaborators may learn about our technology and use this knowledge to compete with us in the future;
12. results of collaborators' preclinical or clinical studies could produce results that harm or impair other products using our XmAb technology platform;
13. there may be conflicts between different collaborators that could negatively affect those partnerships and potentially others; and
14. 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 manufacturing, certain functions, testing and services to CROs, medical institutions and collaborators, 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 to manufacture our clinical drug supply. 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 our third-party manufacturing partners, 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 our third-party manufacturing partner 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 our clinical drug supply would significantly delay our clinical trials and the commercialization of such products, if approved.

Risks Related to Our Industry

Clinical trials are expensive and take years to conduct and the outcome of such clinical trials is uncertain. Clinical trials may fail to prove our product candidates are safe and effective. This could lead to delays, downsizing or termination of clinical development plans for any our product candidates.

Each product candidate must receive regulatory approval and therefore must undergo rigorous and extensive preclinical studies and clinical trials to demonstrate safety and efficacy in patients. Clinical trials at any stage in development may fail to demonstrate the safety, efficacy or pharmacologic properties needed to be a viable product candidate in patients. Early clinical trials may fail to demonstrate the safety and pharmacokinetic characteristics needed to invest in larger later stage clinical studies. Later clinical studies that are larger may not demonstrate the desired safety and efficacy profile needed to be of benefit to patients. Additionally, regulatory authorities may determine that the data provided is not sufficient to grant marketing approval for our product candidates and may request additional data including additional clinical trials or reject product approval.

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.

Conducting early clinical trials is complex and the outcomes are uncertain. Preclinical studies are performed to help inform human clinical trials, but human and animal studies are not comparable. Expected or unexpected 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.

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.

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.

Our industry is subject to competition for skilled personnel and the challenges we face to identify and retain key personnel could impair our ability to effectively conduct and grow our operations.

Attracting and retaining the highly qualified management, scientific and medical personnel necessary for us to successfully implement our business strategy is extremely competitive in the biotechnology industry. Our industry is experiencing an increasing rate of competition in hiring and retaining employees and in turnover of management personnel. We depend heavily 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 equity incentives that vest over time. The value to employees of this equity 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.

Since 2016 we have been increasing the number of our employees and expanding the scope of our operations with a goal of advancing multiple clinical candidates into development. The increase in our number of employees places a significant strain on our management, operations, and financial resources, and we may have difficulty managing this 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 biotechnology 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.

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 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 and outside the US as biologics.

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.

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.

Competition in autoimmune disease and cancer drug development is intense, with hundreds of compounds in clinical trials by large multinational pharmaceutical companies. In addition, many currently marketed drugs are undergoing clinical testing in new indications in order to expand their use to new patient populations. Other companies, including many large international companies, are developing bispecific antibody technologies and checkpoint inhibitors. This includes products in preclinical and clinical development. Some of these agents have received marketing approval, and companies continue to conduct clinical trials to expand their currently approved indications. Alternative technologies, such as standard chemotherapy, cellular therapies and cancer vaccines, may also compete with our products for patients to conduct clinical trials and future potential market share.

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.

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 require us to comply with 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.

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.

Present 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. Healthcare reform measures, if approved, 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.

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. 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.

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 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.

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.

General Risk Factors

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 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.

We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets of our employees' former employers.

Many of our employees were previously employed at universities or other life sciences companies, including our competitors or potential competitors. Although no claims against us are currently pending, we or our employees may be subject to claims that these employees or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. If we fail in

defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights. A loss of key research personnel work product could hamper or prevent our ability to commercialize certain potential products, which could severely harm our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

Our business could be negatively impacted by cyber security threats and other disruptions, including the theft of our intellectual property, and could compromise our information and expose us to liability, which would cause our business and reputation to suffer.

We are increasingly dependent on information technology systems and infrastructure, including mobile technologies, to operate our business. In the ordinary course of our business, we use our data centers and our networks to store and access confidential and proprietary business information. The information includes, among other things, our intellectual property and proprietary information, the confidential information of our collaborators and licensees and the personally identifiable information of our employees, and the individually identified health information of patients participating in our clinical trials. It is important to our operations and business strategy that this electronic information remains secure and is perceived to be secure. The size and complexity of our information technology systems, and those of our partners and third-party vendors with whom we contract together with the volume of data we retain, make such systems potentially vulnerable to breakdown, malicious intrusion, security breaches and other cyber-security attacks.

Information security risks have significantly increased in recent years in part due to the proliferation of new technologies and the increased sophistication and activities of organized crime, hackers, terrorists and other external parties, including foreign state actors. 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. A security breach or privacy violation that leads to disclosure or modification of or prevents access to personally identifiable information or other protected information could harm our reputation, compel us to comply with federal and/or state breach notification laws and foreign law equivalents, subject us to mandatory corrective action, require us to verify the correctness of database contents and otherwise subject us to liability under laws and regulations that protect personal data, resulting in increased costs or loss of revenue. Similarly, the loss of clinical trial data from completed or ongoing or planned clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Moreover, a security breach that exposes our confidential intellectual property could compromise our patent portfolio. Additionally, theft of our intellectual property or proprietary business information could require substantial expenditures to remedy. If we are unable to prevent such security breaches or privacy violations or implement satisfactory remedial measures, our operations could be disrupted, and we may suffer loss of reputation, financial loss and other regulatory penalties because of lost or misappropriated information. In addition, these breaches and other inappropriate access can be difficult to detect, and any delay in identifying them may lead to increased harm of the type described above. Moreover, the prevalent use of mobile devices that access confidential information increases the risk of data security breaches, which could lead to the loss of confidential information, trade secrets or other intellectual property. As cyber threats continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities.

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 have a material adverse effect on our business, financial condition and results of operations including 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.

The increasing use of social media platforms presents new risks and challenges.

Social media is increasingly being used to communicate about our products, technologies and programs, and the diseases our product or product candidates are designed to treat. Social media practices in the biopharmaceutical industry continue to evolve and regulations relating to such use are not always clear. This evolution creates uncertainty and risk of noncompliance with regulations applicable to our business. For example, patients may use social media channels to comment on the effectiveness of a product or to report an alleged adverse event. When such disclosures occur, there is a risk that we fail to monitor and comply with applicable adverse event reporting obligations or we may not be able to defend ourselves or the public's legitimate interests in the face of the political and market pressures generated by social media due to restrictions on what we may say about our product or product candidates. There is also a risk of inappropriate disclosure of sensitive information or negative or inaccurate posts or comments about us on any social networking website. If any of

these events were to occur or we otherwise fail to comply with applicable regulations, we could incur liability, face overly restrictive regulatory actions or incur other harm to our business.

Compliance with global privacy and data security requirements could result in additional costs and liabilities to us or inhibit our ability to collect and process data globally, and the failure to comply with such requirements could have a material adverse effect on our business, financial condition or results of operations.

The regulatory framework for the collection, use, safeguarding, sharing, transfer and other processing of information worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. For example, the EU's General Data Protection Regulation (GDPR), imposes strict obligations on the processing of personal data, including personal health data, and the free movement of such data. The GDPR applies to any company established in the EU as well as any company outside the EU that processes personal data in connection with the offering of goods or services to individuals in the EU or the monitoring of their behavior.

As such, the GDPR will apply to us in connection with any clinical trials we conduct in the EU. The GDPR enhances data protection obligations for processors and controllers of personal data, including, for example, obligations relating to: processing health and other sensitive data; obtaining consent of individuals; providing notice to individuals regarding data processing activities; responding to data subject requests; taking certain measures when engaging third-party processors; notifying data subjects and regulators of data breaches; implementing safeguards to protect the security and confidentiality of personal data; and transferring personal data to countries outside the EU, including the U.S. The GDPR imposes substantial fines for breaches of data protection requirements, which can be up to four percent of global revenue or 20 million euros, whichever is greater, and it also confers a private right of action on data subjects for breaches of data protection requirements. The GDPR and other changes in laws or regulations associated with the enhanced protection of certain types of sensitive data, such as healthcare data or other personal information from our clinical trials, could require us to change our business practices or lead to government enforcement actions, private litigation or significant penalties against us and could have a material adverse effect on our business, financial condition or results of operations.

Additionally, California recently enacted legislation that has been dubbed the first "GDPR-like" law in the U.S. Known as the California Consumer Privacy Act (CCPA), it creates new individual privacy rights for consumers (as that word is broadly defined in the law) and places increased privacy and security obligations on entities handling personal data of consumers or households. The CCPA, which went into effect on January 1, 2020, requires covered companies to provide new disclosures to California consumers, and provides such consumers new ways to opt-out of certain sales of personal information. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. The CCPA may increase our compliance costs and potential liability. Some observers have noted that the CCPA could mark the beginning of a trend toward more stringent privacy legislation in the U.S., which could increase our potential liability and adversely affect 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 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.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our principal laboratory and administrative facilities are currently 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 facility is leased under two separate leases, a lease for 24,000 square feet with a term that expires December 31, 2025 and, a second lease for 24,000 square feet with a term that expired January 31, 2023.

In June 2017, we entered into a lease for 23,500 of office space in San Diego. The original lease term was scheduled to expire August 31, 2022 and in May 2022 we entered into an Amendment to the original lease which extended the lease term to December 31, 2023.

In June 2021, we entered into an 18-month lease for a 7,000-square floor office space in Monrovia, California. The lease began August 1, 2021 and expired January 31, 2023.

In June 2021, we entered into an Agreement of Lease (the Halstead Lease) relating to 129,543 rentable square feet, for laboratory and office space, in Pasadena, California, where the Company will move its corporate headquarters in March of 2023. The term of the Halstead Lease will become effective in two phases. The first phase commenced on August 1, 2022 and encompasses 83,083 square feet while the second phase commences no later than July 1, 2025 and encompasses an additional 46,460 square feet. The term of the Halstead Lease is 13 years from the first phase commencement date, August 1, 2022.

We believe that our existing facilities and planned new corporate headquarters are adequate to meet our current and future needs.

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, 2023, the closing price for our common stock as reported on the Nasdaq Global Market was $35.25.

Holders of Record

As of February 15, 2023, we had 60,030,076 shares of common stock outstanding held by approximately 173 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

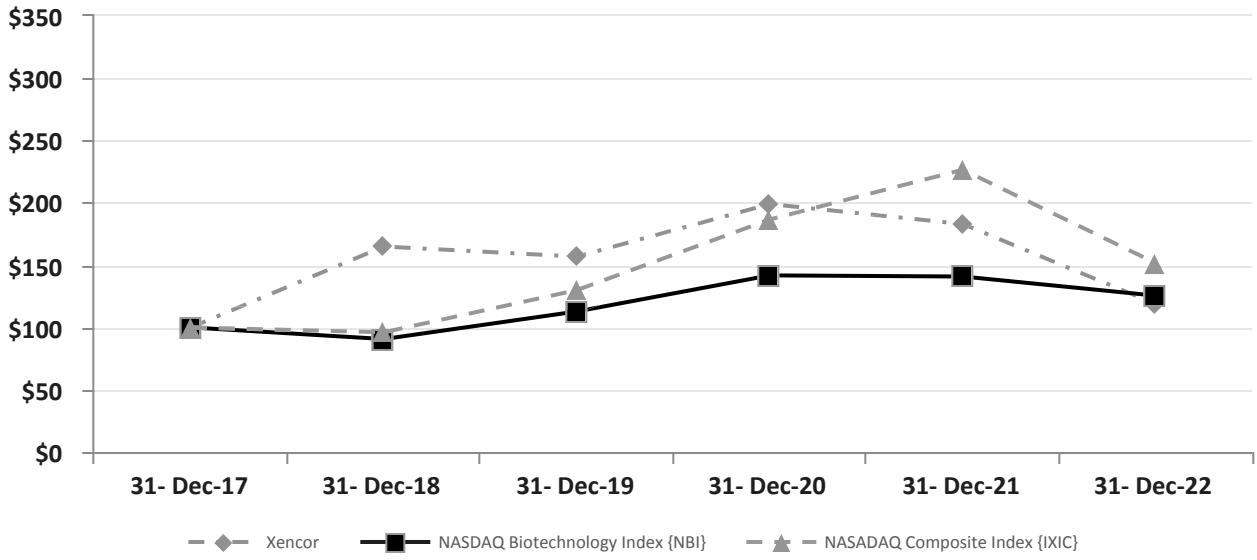
We have never declared or paid any cash dividends on our common stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business. We do not intend to pay cash dividends on our common stock for the foreseeable 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, 2017 through December 31, 2022 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, 2017 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

Under the terms of the Stock Purchase Agreement, Johnson & Johnson Innovation, JJDC, Inc. (JJDC), purchased $25.0 million of newly issued unregistered shares of the Company's common stock, priced at a 30-day volume-weighted average price of $33.4197 per share as of October 1, 2021. The Company issued 748,062 shares of common stock to JJDC on November 12, 2021. The issued shares are subject to customary resale restrictions pursuant to Rule 144 of the Securities Act of 1933.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

Item 6. [Reserved]

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

You should read the following discussion and analysis together with 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 cytokine therapeutics to treat patients with cancer and autoimmune diseases who have unmet medical needs. We are advancing a broad portfolio of clinical-stage XmAb® drug candidates from our proprietary Fc technology platforms. We also use our protein engineering capabilities to increase our understanding of protein structure and interactions and to design new Fc technologies and XmAb development candidates with improved properties. In addition to engineering protein-target interactions, our approach to protein design includes engineering Fc domains, the part of an antibody that interacts with multiple segments of the immune system and controls antibody structure. The Fc domain is constant and interchangeable among antibodies, and our engineered Fc domains can be readily substituted for natural Fc domains.

Our protein engineering capabilities and Fc technologies enable us and our partners to develop XmAb antibodies and biotherapeutic drug candidates with improved properties and function, which can provide innovative approaches to

treating disease and potential clinical advantage over other treatment options. For example, we developed an antibody scaffold to rapidly create novel bispecific antibodies that bind two different targets simultaneously, creating entirely new biological mechanisms. Other applications of our Fc technologies enhance antibody performance by increasing immune inhibitory activity, improving cytotoxicity, extending circulating half-life and stabilizing novel protein structures, such as engineered cytokines. Three medicines have been developed with our Fc technologies. The medicines are marketed by our partners and, are generating royalty revenues for us, which partially offset our internal development costs.

Refer to Part I, Item 1, "XmAb Bispecific Technologies" and "Other XmAb Fc Technologies" in the description of our business included in this Annual Report on Form 10-K for a discussion of our core Fc technology platforms.

COVID-19

We are closely monitoring the COVID-19 pandemic and continue to evaluate its impact on all aspects of our business, including how it will affect our partners, collaborations, supply chains and research and development operations. While the pandemic did not significantly disrupt our business during the year ended December 31, 2022, the evolving nature of the pandemic prevents us from reasonably predicting how the pandemic will affect our financial condition, results of operations and cash flows due to numerous uncertainties. These uncertainties include the scope, severity and duration of the pandemic, the actions taken to contain the pandemic or mitigate its impacts and the direct and indirect economic effects of the pandemic and containment measures, among others. Many states, including California, where we are headquartered and where our principal place of business is located, and cities therein have ongoing restrictions, rules and guidelines that affect the continued operation of businesses. Other countries and states where we conduct manufacturing of our drug product, testing activities and clinical sites where patients are enrolled in our clinical trials have enacted similar restrictions that could affect our ability to conduct our drug candidate development and clinical operations. Our primary vendor for manufacturing drug substance and drug product for our clinical programs is located in China which continues to be affected by the COVID-19 pandemic.

The potential impacts on our business, revenue, clinical studies and research and development activities of the COVID-19 pandemic include:

- Business: Our broad protein engineering capabilities and technologies are uniquely suited to provide us with opportunities to identify and enhance compounds that may target the novel coronavirus and potentially treat patients with COVID-19. For example, in 2021 sotrovimab, an antibody that targets the SARS-CoV-2 virus, received an EUA from the FDA for the treatment of mild-to-moderate COVID-19 in high-risk adults and pediatric patients, and is made available by Vir and its partner GlaxoSmithKline Plc. The FDA deauthorized sotrovimab in the first quarter 2022, but it is still approved in the European Union and other countries. Sotrovimab incorporates our Xtend Fc technology for longer duration of action. We are eligible to receive a mid-single digit percentage royalty on the net sales of sotrovimab.
- Revenue: We receive upfront payments, milestone payments and royalties from licensing our XmAb technologies and drug candidates. The COVID-19 pandemic has not adversely affected the amount of revenue we generate from such partnerships and collaborations for the year ended December 31, 2022. During the year, we received $198.7 million from our partnerships and collaborations including those with Vir, MorphoSys, Alexion, Astellas and Janssen.

  Our ability to earn revenue from these and other partnerships is dependent on the ability of our partners to generate sales from products, such as sotrovimab, Ultomiris®, and Monjuvi®, the ability of our partners to advance our partnered programs through regulatory approval, and the ability of our partners to advance our partnered programs into later stages of development, which would entitle us to potential milestone payments. If the COVID-19 pandemic adversely affects the sales or clinical, development and regulatory progress of partnered programs, the amount of future revenue we could earn would be adversely affected.
- Clinical studies: We are currently enrolling patients into multiple trials evaluating our drug candidates, and our partner Genentech is enrolling patients in multiple Phase 1 studies of XmAb306 (also known as RG6323), our co-development program with Genentech. Many partners are also enrolling patients in clinical trials with drug candidates that incorporate one or more of our XmAb technologies. Although the pandemic has not materially affected the development of our clinical programs for the year ended December 31, 2022, some of our clinical programs temporarily experienced slower patient enrollment, and the initiations of new studies for certain programs have been delayed as a result of the COVID-19 pandemic. These delays have not broadly affected the status of our portfolio programs and have been limited to specific trials and specific sites. Many

clinical sites have delayed starting new clinical trials and others have postponed enrollment to address the pandemic.

- Research, development, and administrative activities: We have implemented environmental, health and safety procedures for all employees and have also offered reimbursement of costs incurred and time off to employees to receive vaccinations that have been authorized. We believe we provide a safe and healthy environment for our onsite employees who have been able to continue research operations, following an initial period of reduced onsite activities while new policies and procedures were developed and implemented. As of December 31, 2022, these activities have continued without interruption from the pandemic.

  Our development activities include initiating a Phase 1 study of XmAb662, our reduced-potency engineered IL12 cytokine candidate, and completing IND-enabling activities for XmAb541, our CLDN6 x CD3 2+1 bispecific antibody candidate. Several other bispecific antibody and cytokine programs are in earlier stages of development. Certain manufacturing and supply companies have indicated supply chain issues and shortages of research and manufacturing supply materials. The development timelines for additional early-stage programs and ongoing clinical programs could be affected if the supply shortages and delays continue for an extended period.

Advancements in Our Clinical Portfolio of XmAb Bispecific Antibodies and Cytokine Candidates

Our modular XmAb bispecific technology and protein engineering capabilities enable us to rapidly advance multiple drug candidates into clinical development. We and our partners are currently enrolling Phase 1 or Phase 2 studies for seven wholly owned or co-development candidates to treat patients with many different types of cancer and autoimmune diseases, and an eighth, to be developed for patients with advanced solid tumors, is planned to enter clinical development in mid-2023.

Vudalimab (PD-1 x CTLA-4): Vudalimab is a bispecific antibody that targets PD-1 and CTLA-4, two immune checkpoint receptors, to selectively activate the tumor microenvironment, and it is being developed for patients with metastatic castration-resistant prostate cancer (mCRPC) and other solid tumor types. Data from a Phase 1 study that enrolled heavily pretreated patients with multiple solid tumor types indicated that vudalimab was generally well-tolerated with encouraging clinical activity.

We are conducting a Phase 2 study of vudalimab in patients with mCRPC, as a monotherapy or in combination with chemotherapy or a PARP inhibitor depending on the tumor's molecular subtype, as these patients represent a high unmet medical need. Early data from the safety run-in portion of the study were presented at the Annual Meeting of the Society for Immunotherapy of Cancer (SITC) in November 2022. Clinical activity, including multiple prostate-specific antigen (PSA) reductions of more than 50% from baseline (PSA50) had been observed in three of nine patients. A patient with an 89% reduction in PSA from baseline experienced a partial response at week 18 and was continuing on treatment. Review of safety data guided us to revise the chemotherapy dosing regimens in the combination cohorts in the study. Dosing of vudalimab was unchanged.

We are also conducting a second Phase 2 study in patients with advanced gynecologic malignancies, and the study includes a cohort to evaluate vudalimab in patients with clinically-defined high-risk mCRPC.

XmAb104 (PD-1 x ICOS): XmAb104 is a bispecific antibody that targets PD-1, an immune checkpoint receptor, and ICOS, an immune co-stimulatory receptor, to selectively activate the tumor microenvironment. We reported initial dose-escalation data from the Phase 1 study at the American Society of Clinical Oncology in June 2022. XmAb104 was well tolerated and exhibited a distinct safety profile compared to other clinical-stage ICOS programs. Anti-tumor activity was observed in patients, and biomarker activity was consistent with engagement with T cells. We are evaluating XmAb104 as a monotherapy and in combination with ipilimumab, in the expansion portion of a Phase 1 clinical study for the treatment of patients with advanced solid tumors.

XmAb564 (IL2-Fc Cytokine): XmAb564 is a wholly owned, monovalent, interleukin-2 Fc (IL-2-Fc) fusion protein, engineered to selectively activate and expand regulatory T cells (Tregs) for the potential treatment of patients with autoimmune diseases. XmAb564 is engineered with reduced binding affinity for IL-2's beta receptor and increased binding affinity for its alpha receptor. In preclinical studies, XmAb564 was well-tolerated, promoted the selective and sustained expansion of Tregs and exhibited a favorable pharmacokinetic profile.

In November 2022, we presented data from a randomized, double-blind, placebo-controlled Phase 1a study to evaluate the safety and tolerability of a single dose of XmAb564 administered subcutaneously in healthy volunteers. The study enrolled 48 subjects, with six dose-level cohorts each randomizing six subjects to XmAb564 and two subjects to placebo. The study demonstrated that a single dose of XmAb564 is well tolerated and generates a durable, dose-dependent and selective expansion of Tregs. In the highest dose cohort (0.065 mg/kg; Cohort 6), a 117-fold mean peak expansion over baseline in CD25bright cells was observed, with an 8-fold expansion in the bulk Treg population. The ratio of Tregs to conventional T cells also increased significantly in a dose-dependent manner. At day 21, both CD25bright and total Treg counts remained markedly elevated, potentially supporting a multi-week dosing profile. All adverse events (AEs) were either Grade 1 or 2 and resolved without intervention. Injection site reaction was the most reported AE.

In the fourth quarter of 2022, we dosed the first patient in a newly initiated Phase 1b, multiple-ascending dose study of XmAb564 in patients with atopic dermatitis and psoriasis.

XmAb819 (ENPP3 x CD3): XmAb819 is a first-in-class, tumor-targeted, T-cell engaging XmAb 2+1 bispecific antibody in development for patients with renal cell carcinoma (RCC). XmAb819 engages the immune system and activates T cells for highly potent and targeted tumor cells expressing ENPP3, an antigen highly expressed on kidney cancers. ENPP3 is a differentially expressed target, with high level expression in RCC and low level expression on normal tissues. With two tumor-antigen binding domains and one T-cell binding domain, our XmAb 2+1 format enables antibodies to bind more avidly to, and selectively kill, tumor cells with higher antigen density, potentially sparing normal cells. In 2022 we initiated a Phase 1 study to evaluate XmAb819 in patients with advanced RCC.

XmAb808 (B7-H3 x CD28): XmAb808 is a tumor-selective, co-stimulatory XmAb 2+1 bispecific antibody designed to bind to the broadly expressed tumor antigen B7-H3 and selectively to the CD28 T-cell co-receptor, only when bound to tumor cells. In the fourth quarter of 2022, we dosed the first patient in a Phase 1 study to evaluate XmAb808 in combination with pembrolizumab in patients with advanced solid tumors.

Co-development Programs

Plamotamab (CD20 x CD3): Plamotamab is a bispecific antibody that targets CD20, an antigen on B-cell tumors, and CD3, an activating receptor on T cells. In October 2021, we entered a global collaboration and license agreement with Janssen Biotech, Inc. (Janssen), to advance plamotamab and XmAb CD28 bispecific antibody combinations for the treatment of patients with B-cell malignancies, which expands our strategy to develop multiple highly active chemotherapy-free regimens across B-cell cancers. Janssen received worldwide exclusive development and commercial rights, and we will collaborate with Janssen on further clinical development of plamotamab, with us paying 20% of costs. Under the collaboration, we will develop B-cell targeted CD28 bispecific antibodies to selectively enhance T-cell cytotoxic activity in combination with plamotamab.

At the ASH Annual Meeting in December 2022, we presented additional safety and anti-tumor activity data from expansion cohorts in the Phase 1 study of plamotamab in patients with relapsed or refractory non-Hodgkin lymphoma (NHL). The results indicated that plamotamab monotherapy was well tolerated and demonstrated encouraging clinical activity in heavily pretreated patients at the recommended intravenous Phase 2 dose. In the fourth quarter of 2022, we began dosing patients in the study with subcutaneously administered plamotamab.

XmAb306/RG6323 (IL15/IL15Rα-Fc Cytokine): XmAb306 is a reduced-potency IL15/IL15Rα-Fc fusion protein that incorporates our Xtend extended half-life technology, and we are co-developing this program in collaboration with Genentech, a member of the Roche Group. We share in 45 percent of worldwide development and commercialization costs for XmAb306 and will receive a share of net profits or net losses from product sales at the same percentage rate. We retain the right to perform clinical studies with XmAb306, as well as with other collaboration programs developed in combination with other therapeutic agents, subject to certain restrictions and at our sole expense.

Genentech is conducting a Phase 1 study of XmAb306 as a single agent and in combination with atezolizumab in patients with advanced solid tumors. In 2022, Genentech initiated two additional Phase 1 studies, evaluating XmAb306 in patients with relapsed/refractory multiple myeloma, either in combination with daratumumab (anti-CD38 antibody) or in combination with cevostamab (FcRH5 x CD3 bispecific antibody).

Advancements Expanding XmAb Bispecific Platforms

We conduct further research into the function and application of antibody Fc domains in order to expand the scope of our XmAb technology platforms and identify additional XmAb drug candidates. We use the modularity of our XmAb bispecific Fc technology to build bispecific antibodies and cytokines in a variety of formats, such as T cell engaging bispecific antibodies of a mixed valency format, the XmAb 2+1 bispecific antibody. XmAb 2+1 bispecific antibodies may preferentially kill tumor cells with high target expression, which may be especially beneficial in designing antibodies that target solid tumors. This selectivity potentially empowers T cell engaging bispecifics (e.g., CD3, CD28) to address an expanded set of tumor antigens. Four clinical-stage programs utilize our XmAb 2+1 format: XmAb819, XmAb808, AMG 509 and ASP2138. We are currently completing IND-enabling activities for an additional XmAb 2+1 bispecific antibody candidate, XmAb541 (Claudin-6 x CD3), which we are developing for patients with ovarian cancer. We plan to submit an IND application for XmAb541 in 2023.

Additionally, we have engineered CD28 bispecific antibodies to provide conditional CD28 co-stimulation of T cells, activating them when bound to tumor cells. Targeted CD28 bispecific antibodies may provide conditional co-stimulation of T cells, for example, to T cells recognizing neoantigens or in concert with CD3 T-cell engaging bispecific antibodies. In addition to our first clinical-stage CD28 program, XmAb808, our CD28 platform is the subject of two collaborations with Janssen. The first collaboration was announced in 2020 and involves our research efforts to create and characterize CD28 bispecific antibody candidates against a prostate tumor target specified by Janssen. In November 2021, we completed our research efforts under the collaboration. Janssen selected a CD28 bispecific for further development, and we received a $5.0 million milestone payment. The second Janssen collaboration was announced in October 2021 and includes conducting research activities with Janssen to create and characterize CD28 bispecific antibody candidates against B-cell targets during a two-year period, with Janssen having an exclusive worldwide license to develop selected molecules from the research activities and also selected molecules in combination with plamotamab and other agents, such as other CD3 bispecific antibodies. In January 2023, Janssen selected a CD28 candidate that we developed under the second collaboration for further development.

In November 2022, we presented emerging preclinical data from early-stage programs that highlighted several of our platform technologies at the Annual Meeting of the Society for Immunotherapy of Cancer, with poster presentations with data from our IL18-Fc cytokine program, LAG3-targeted IL15-Fc cytokine program, PDL1 x PDL2 x CD28 trispecific antibody program, and bispecific NK cell engager platform.

Progress Across Partnerships

A key part of our business strategy is to leverage our protein engineering capabilities, XmAb technologies and drug candidates with partnerships, collaborations and licenses. Through these arrangements we generate revenues in the form of upfront payments, milestone payments and royalties. For partnerships for our drug candidates, we aim to retain a major economic interest in the form of keeping major geographic commercial rights; profit-sharing; co-development options; and the right to conduct studies with drug candidates developed in the collaboration. The types of arrangements that we have entered with partners include product licenses, novel bispecific antibody collaborations, technology licensing agreements and strategic collaborations.

Product Licenses

Product licenses are arrangements in which we have internally developed drug candidates and, based on a strategic review, licensed partial or full rights to third parties to continue development and potential commercialization. We seek partners that can provide infrastructure and resources to successfully develop our drug candidates, have a track record of successfully developing and commercializing medicines, or have a portfolio of development-stage candidates and commercialized medicines which could potentially be developed in rational combinations with our drug candidates.

The FDA approved Monjuvi® (tafasitamab-cxix) under accelerated approval in July 2020. Monjuvi is a humanized Fc-modified CD19 targeting immunotherapy indicated in combination with lenalidomide for the treatment of adult patients with relapsed or refractory diffuse large B-cell lymphoma (DLBCL) not otherwise specified, including DLBCL arising from low grade lymphoma, and who are not eligible for autologous stem cell transplant (ASCT). This indication is approved under accelerated approval based on overall response rate. Continued approval for this indication may be contingent upon verification and description of clinical benefit in a confirmatory trial(s). In August 2021, the European Commission granted conditional marketing authorization for Minjuvi® (tafasitamab) in combination with lenalidomide, followed by tafasitamab monotherapy, for the treatment of adult patients with relapsed or refractory diffuse

large B-cell lymphoma (DLBCL) who are not eligible for autologous stem cell transplantation (ASCT). Tafasitamab was created and initially developed by us. Tafasitamab is co-marketed by Incyte and MorphoSys under the brand name Monjuvi in the U.S. and is marketed by Incyte under the brand name Minjuvi in Europe and Canada. Incyte has exclusive commercialization rights to tafasitamab outside the U.S. Monjuvi® and Minjuvi® are registered trademarks of MorphoSys AG. In 2022, we recognized royalty revenue of $7.8 million on net sales of Monjuvi.

In November 2021, we entered into an agreement with Zenas BioPharma (Cayman) Limited (Zenas), to which we licensed the exclusive worldwide rights to develop and commercialize obexelimab, a bifunctional antibody that targets CD19 with its variable domain and uses our XmAb Immune Inhibitor Fc Domain. Zenas issued a warrant giving us the right to acquire additional Zenas equity, such that our total equity in Zenas would be 15% of its fully diluted capitalization following the closing of Zenas' next round of equity financing, subject to certain requirements. In November 2022, Zenas completed a financing transaction and we received additional shares in Zenas in exchange for the warrant. The total shares received increases our ownership in Zenas to 15% of the fully diluted shares outstanding. We are eligible to receive up to $470.0 million based on the achievement of certain clinical development, regulatory and commercial milestones and are eligible to receive tiered, mid-single digit to mid-teen percent royalties upon commercialization of obexelimab, dependent on geography. In January 2023, Zenas initiated a Phase 3 study of obexelimab in an autoimmune disease.

Novel Bispecific Antibody Collaborations

Novel bispecific antibody collaborations are arrangements in which our partner seeks to create a bispecific antibody using one or more of our XmAb bispecific technologies. Our partners provide an antibody or a tumor-associated antigen, and we conduct limited research and development to create potential bispecific antibody candidates for further development and commercialization by our partners.

In November 2020, we entered an agreement with Janssen, focused on the discovery of XmAb bispecific antibodies against CD28, an immune co-stimulatory receptor on T cells, and an undisclosed prostate tumor target, for the potential treatment of patients with prostate cancer. Additionally, we have a right to access select, predefined agents from Janssen's portfolio of clinical-stage drug candidates and commercialized medicines to evaluate potential combination therapies in prostate cancer with agents in our own pipeline, subject to some limitations. Janssen has the same right with our portfolio to evaluate potential combination therapies in prostate cancer, as well. The ability to study combinations of therapies from both companies' prostate cancer portfolios leverages our broad clinical pipeline and Janssen's leading prostate cancer therapeutics portfolio. In 2021, we received a $5.0 million milestone payment related to our first agreement with Janssen, which selected an XmAb CD28 bispecific antibody candidate for further development.

Other XmAb bispecific antibodies being developed by our partners include Amgen's AMG 509, a STEAP1 x CD3 XmAb 2+1 bispecific antibody, which is being evaluated in a Phase 1 study for patients with prostate cancer; Astellas' ASP2138, a CLDN18.2 x CD3 bispecific antibody, which is in Phase 1 studies to treat patients with gastric/GEJ adenocarcinomas and pancreatic adenocarcinoma and an undisclosed bispecific antibody candidate being developed by Novartis, which is also in Phase 1 development.

Technology License Agreements

We enter into technology licensing agreements in which we license access to one or more of our XmAb Fc technologies on a restricted basis, typically to an XmAb Cytotoxic Fc Domain and/or the Xtend Fc Domain. Our partners are responsible for all research, development and commercialization activities of the drug candidates. The plug-and-play nature of XmAb technologies allows us to license access to our platforms with limited or no internal research and development activities.

Alexion's Ultomiris® uses Xtend Fc technology for longer half-life. Ultomiris has received marketing authorizations from regulatory agencies in the U.S. and multiple global markets for the treatment of patients with paroxysmal nocturnal hemoglobinuria (PNH) and for patients with atypical hemolytic uremic syndrome (aHUS). Alexion is also evaluating Ultomiris in a broad late-stage development program across many indications in neurology and nephrology. In April 2022, Ultomiris was approved by the FDA for the treatment of adult patients with generalized myasthenia gravis (gMG) who are anti-acetylcholine receptor (AChR) positive. In 2022, we earned $29.4 million in royalties from Alexion.

In August 2019, we provided Vir a non-exclusive license to our Xtend Fc technology for two targets in infectious disease. Vir has advanced two programs under this agreement. In the second quarter of 2021, Vir announced plans to

initiate a Phase 2 trial of VIR-3434 in combination with an siRNA drug candidate as a potential treatment for patients with chronic hepatitis B virus infection, and we earned $0.5 million for the development milestone.

In March 2020, we entered a second agreement with Vir Biotechnology, Inc., under which Vir has non-exclusive access to our Xtend Fc technology to extend the half-life of novel antibodies being investigated as potential treatments for patients with COVID-19. In May 2021, the FDA granted EUA to sotrovimab for the treatment of mild-to-moderate COVID-19 in high-risk adults and pediatric patients. In December 2021, the EU granted a temporary authorization for sotrovimab, and several other countries have also provided temporary or conditional authorizations for its use. In 2022, we earned $114.9 million in royalties from Vir.

In December 2021, we entered into an agreement with Viridian Therapeutics, inc. (Viridian) for a non-exclusive license to certain antibody libraries developed by us. Under the agreement, Viridian received a one-year research license to review the antibodies and the right to select up to three antibodies for further development. Viridian is responsible for all further development of the selected antibodies. We received shares of Viridian common stock valued at $7.5 million as an upfront payment and are eligible to receive development, regulatory and sales milestones in addition to royalties on net sales of approved products under the agreement.

Strategic Collaborations

We enter into strategic collaborations where we can create synergies between our partners' strengths and assets and our own protein engineering capabilities, Fc technologies and XmAb drug candidates. Through these arrangements we seek to create new drug candidates, investigate novel combination therapies and potentially identify additional indications for our portfolio of XmAb drug candidates.

Atreca, Inc.

In 2020, we entered into an agreement with Atreca, Inc. to research, develop and commercialize novel CD3 bispecific antibody candidates as potential therapeutics in oncology. During a three-year research term, Atreca will provide antibodies against novel tumor targets through its discovery platform from which we will engineer XmAb bispecific antibodies that bind to the CD3 receptor on T cells. The two companies will share research costs equally during the research term. In January 2023, we and Atreca selected an antibody from the collaboration for development. We and Atreca will share development costs with Atreca conducting development activities for the bispecific candidate. In January 2023, we and Atreca selected an antibody candidate from the collaboration to advance into development.

The University of Texas MD Andersen Cancer Center

In September 2020, we entered into an agreement with MD Andersen, in which we will provide funding over a five year period and MD Andersen will collaborate to design and execute additional clinical studies with our portfolio of XmAb drug candidates, including novel bispecific antibody and cytokine candidates. We own all rights to the programs and results generated from these studies. MD Andersen is currently conducting studies with our vudalimab drug candidate.

Caris Life Sciences

In July 2022, we entered into an agreement with Caris Life Sciences (Caris), under which Caris will apply its proprietary end-to-end discovery platform to identify novel targets for XmAb bispecific antibody drug candidates for the treatment of patients with cancer. We received exclusive options to research, develop and commercialize products directed against up to three targets. Caris received an upfront payment and will be eligible to receive licensing fees, discovery, development, regulatory and sales-based milestones and royalty payments on net sales of each product commercialized by us and future rights for molecular profiling and companion diagnostics for drug candidates developed under the collaboration.

In December 2022, we entered into a second agreement with Caris. The second agreement increased the number of targets that Caris will provide and also the tumor types that are being evaluated. We paid Caris an upfront payment, and Caris is eligible for additional licensing fees, milestones and royalty payments on net sales of each product commercialized by us.

Refer to Part IV, Item 15, Note 10, "Collaboration and Licensing Agreements" of the notes to our financial statements included in this Annual Report on Form 10-K for a description of the key terms of our arrangements.

Financial Operations Overview

Revenues

Our revenues to date have been generated primarily from our collaboration agreements, our product licensing agreements, and our technology licensing agreements. Revenue recognized from our collaboration and product licensing agreements includes non-refundable upfront payments, milestone payments and royalties on net sales of approved products while revenue from our technology licensing agreements includes upfront payments, option payments to obtain commercial licenses, milestone payments and royalties on net sales of approved products. Since our inception through December 31, 2022, we have generated $985.3 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, product licensing, and technology licensing revenue for the years ended December 31, 2022 and 2021 (in millions):

	Year Ended December 31,	
	2022	2021
Alexion	$ 29.4	$ 22.2
Astellas	5.0	—
Genentech	—	2.5
Janssen	7.0	113.8
MorphoSys	7.8	18.4
Novartis	—	43.1
Vir	115.4	52.7
Viridian	—	7.5
Zenas	—	14.9
Total	$ 164.6	$ 275.1

Research and Development Expenses

The following is a comparison of research and development expenses for the years ended December 31, 2022 and 2021 (in millions):

	Year Ended December 31,	
	2022	2021
External research and development expenses	$ 89.0	$ 101.7
Internal research and development expenses	79.0	66.6
Stock-based compensation	31.6	24.2
Total	$ 199.6	$ 192.5

Internal research and development expenses consist primarily of salaries, benefits, related personnel costs, supplies, and allocated overhead including facility costs. External research and development expenses include preclinical testing costs, clinical trial costs and fees paid to external service providers. External service providers include CROs and contract manufacturing organizations (CMOs) 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 expect that our future research and development expenses will increase overspending levels in recent years if we are successful in advancing our current clinical-stage drug candidates or any of our preclinical programs into later 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 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 percentage of time of full-time research personnel efforts on each program.

The following is a comparison of research and development expenses for the years ended December 31, 2022 and 2021 (in millions):

	Year Ended December 31,	
	2022	2021
Product programs:		
Bispecific programs:		
CD3 programs:		
*Vibecotamab** [(1)]	$ 4.0	$ 8.3
*Plamotamab**	19.8	33.2
Tidutamab [(2)]	11.0	15.3
XmAb819 (ENPP3 x CD3)	10.5	16.4
XmAb541 (CLDN6 X CD3)	7.1	—
Total CD3 programs	52.4	73.2
CD28 program:		
XmAb808 (B7H3 x CD2)	17.7	9.3
Tumor microenvironment (TME) activator programs:		
Vudalimab (XmAb717)	22.8	25.6
XmAb104	21.3	15.4
XmAb841[(3)]	8.7	12.2
Total TME activator programs	52.8	53.2
Cytokine programs:		
XmAb662 IL-12	15.5	5.9
*XmAb306/RG6323**	13.2	15.3
XmAb143-IL18	5.7	—
XmAb564	17.2	13.1
Total cytokine programs	51.6	34.3
Subtotal bispecific programs	174.5	170.0
Other, research and early-stage programs	25.1	22.5
Total research and development expenses	$ 199.6	$ 192.5

*Includes net payments to, and reimbursements from, our partners pursuant to agreements that include cost-sharing arrangements.

(1) Represents wind down costs of the program: Novartis and the Company stopped development of the vibecotomab program in 2021.

(2) Represents wind down costs of the program; the Company stopped development of the tidutamab program in the second quarter of 2022.

(3) Represents wind down costs of the program; the Company stopped development of the XmAb841 program in the second quarter of 2022.

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 intellectual property costs, facility costs, and professional fees for auditing, tax and legal services.

Other Income, Net

For the year ended December 31, 2022, other income, net, consists primarily of unrealized gain on equity securities during the year, while for the year ended December 31, 2021, other income, net, consists primarily of unrealized and realized gains on equity securities during the year.

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, 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, 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.

In certain transactions for licensing of our technologies or our product candidates, we may receive an equity interest from our partners as full or partial consideration for an upfront payment due under the arrangement. We record the initial equity at its fair value and mark the value to market quarterly for publicly traded securities and review for impairment for equity that is not publicly traded on a national exchange.

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 where the technology has

alternative uses. The net capitalized patents, licenses, and other intangible assets as of December 31, 2022 and 2021 were $18.5 million and $16.5 million, respectively. We believe that these costs should be capitalized as the intellectual property portfolio creates the underlying property right to our technologies and product candidates and supports the upfront payments, licensing fees, milestone payments and royalties 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 recorded as general and administrative expenses.

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 $1.5 million and $0.9 million for the years ended December 31, 2022 and 2021, respectively. Such charges are reflected as general and administrative expenses.

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:

- CROs 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 CROs 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. We have concluded that there are no material uncertain tax positions and have not recorded an income tax expense or liability for uncertain tax positions as of December 31, 2022.

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (TCJA) was enacted into law, which beginning in 2018, made several changes to U.S. corporate income tax provisions including a reduction in the U.S. corporate rate from a maximum rate of 35% to 21% effective January 1, 2018. The TCJA also allowed net operating losses (NOLs) incurred after January 1, 2018 to be carried forward indefinitely subject to limitations on the amount of NOLs that could be applied against taxable income each year. The TCJA also requires capitalization of certain research and development expenses beginning effective January 1, 2022.

We recorded net deferred tax assets of $115.0 million as of December 31, 2022, 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, 2022, we had cumulative net operating loss carryforwards for federal income tax purposes of approximately $102.4 million; $59.0 million of such losses were incurred prior to December 31, 2017 and $43.4 million were incurred in the years ending on or after December 31, 2018. We also had available tax credit carryforwards of $38.7 million for federal tax purposes. We had cumulative state tax loss carryforwards at December 31, 2022 of $162.1 million, and available state tax credit carryforwards of approximately $20.4 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 2027; state net operating loss carryforwards expire starting in 2035; and federal tax credit carryforwards begin to expire starting in 2034.

We recorded an income tax expense of $0.7 million for the year ended December 31, 2022. No income tax expense or benefit was recorded for the year ended December 31, 2021.

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.
- *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 six and eight years. We use a simplified method to calculate the average expected term for employee awards.

Results of Operations

The discussion that follows includes a comparison of our results of operations and liquidity and capital resources for the years ended December 31, 2022 and 2021. For a comparison of our results of operations and financial condition for the years ended December 31, 2021 and 2020. see "Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations" in our 2021 Annual report on Form 10-K, filed with the SEC on February 23, 2021.

Comparison of the Years Ended December 31, 2022 and 2021

The following table summarizes our results of operations for the years ended December 31, 2022 and 2021 (in millions):

	Year ended December 31,		
	2022	2021	Change
Revenues:			
Research collaboration	$ 7.0	$ 93.0	$ (86.0)
Milestone	5.5	21.0	(15.5)
Licensing	—	80.8	(80.8)
Royalties	152.1	80.3	71.8
Total revenues	164.6	275.1	(110.5)
Operating expenses:			
Research and development	199.6	192.5	7.1
General and administrative	47.5	38.8	8.7
Total operating expenses	247.1	231.3	15.8
Other income, net	28.0	38.8	(10.8)
Income tax expense	0.7	—	0.7
Net income (loss)	$ (55.2)	$ 82.6	$ (137.8)

Revenues

Research collaboration revenues in 2022 are primarily revenue recognized under our second Janssen agreement, while research collaboration revenues in 2021 are primarily revenue recognized under our first Janssen agreement and our Novartis agreement.

Milestone payments decreased by $15.5 million in 2022 from 2021 amounts primarily due to milestones received from Astellas in 2022, compared to milestones received from MorphoSys, Janssen and Novartis in 2021.

Licensing revenues decreased in 2022 from the amounts reported for the same period in 2021. Licensing revenue in 2021 primarily consists of revenues recognized from the second Janssen agreement and Zenas.

Increased royalty revenues for 2022 are primarily due to additional revenue recognized from our Vir agreement over 2021 royalty amounts.

Research and Development Expenses

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

	Year Ended December 31,		
	2022	2021	Change
Product programs:			
Bispecific programs:			
CD3 programs:			
*Vibecotamab** [(1)]	$ 4.0	$ 8.3	$ (4.3)
*Plamotamab**	19.8	33.2	(13.4)
Tidutamab [(2)]	11.0	15.3	(4.3)
XmAb819 (ENPP3 x CD3)	10.5	16.4	(5.9)
XmAb541 (CLDN6 X CD3)	7.1	—	7.1
Total CD3 programs	52.4	73.2	(20.8)
CD28 program:			
XmAb808 (B7H3 x CD2)	17.7	9.3	8.4
Tumor microenvironment (TME) activator programs:			
Vudalimab (XmAb717)	22.8	25.6	(2.8)
XmAb104	21.3	15.4	5.9
XmAb841[(3)]	8.7	12.2	(3.5)
Total TME activator programs	52.8	53.2	(0.4)
Cytokine programs:			
XmAb662 IL-12	15.5	5.9	9.6
*XmAb306/RG6323**	13.2	15.3	(2.1)
XmAb143-IL18	5.7	—	5.7
XmAb564	17.2	13.1	4.1
Total cytokine programs	51.6	34.3	17.3
Subtotal bispecific programs	174.5	170.0	4.5
Other, research and early-stage programs	25.1	22.5	2.6
Total research and development expenses	$ 199.6	$ 192.5	$ 7.1

*Includes net reimbursements from our partners pursuant to agreements that include cost-sharing arrangements.

(1) Represents wind down costs of the program; Novartis and the Company stopped development of the vibecotomab program in 2021.

(2) Represents wind down costs of the program; the Company stopped development of the tidutimab program in the second quarter of 2022.

(3) Represents wind down costs of the program; the Company stopped development of the XmAb841 program in the second quarter 2022.

Research and development expenses increased by $7.1 million in 2022 over 2021 amounts as we continue to expand our pipeline of bispecific antibody and cytokine candidates. Increased research and development spending in 2022 was primarily driven by increased spending on our CD3, CD28 and cytokine programs including XmAb808 which we advanced into clinical studies in 2022, XmAb662 for which we completed IND-enabling activities in 2022 and have an open IND, and XmAb541 for which we are conducting IND-enabling activities.

General and Administrative Expenses

General and administrative expenses increased by $8.7 million in 2022 over 2021 amounts primarily due to increases in general and administrative compensation costs, and additional spending on facilities and licensing fees.

Other Income, Net

Other income, net decreased by $10.8 million in 2022 from 2021 amounts. We recognized an unrealized gain from remeasuring equity securities in connection with our licensing transactions. In 2021, we realized gain from the sale of the INmune option offset by unrealized losses from the change in accounting estimate for equity securities in connection with our licensing transactions.

Liquidity and Capital Resources

Since our inception, our operations have been primarily financed through proceeds from public offering, private sales of our equity, 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 antibody and cytokine product candidates, evaluate opportunities for the potential clinical development of our other preclinical programs, and continue our research efforts.

In 2022, we received a total of $198.7 million in milestone payments and royalties in connection with licensing of our technologies and products.

At December 31, 2022, we had $613.5 million of cash, cash equivalents, marketable debt securities, and receivables compared to $664.1 million at December 31, 2021. We expect to continue to receive additional payments from our collaborators for research and development services rendered, additional milestone, contingent payments, opt-in and royalty payments. 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. At the current stage of our clinical development programs, 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 believe that our existing cash, cash equivalents and marketable securities, together with interest thereon and expected milestone and royalty payments will be sufficient to fund our operations through the end of 2025. 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,	
	2022	2021
Net cash provided by (used in):		
Operating activities	$ 24,485	$ (16,853)
Investing activities	(119,725)	(46,249)
Financing activities	5,702	43,038
Net increase (decrease) in cash and cash equivalents	$ (89,538)	$ (20,064)

Operating Activities

Net cash provided by operating activities for the year ended December 31, 2022 reflects royalty payments received during the year in excess of operating expenses while net cash used in operating activities for the year ended December 31, 2021 reflects the operating expenses incurred during the year offset by upfront, milestone, and royalty payments received.

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 2022, we purchased $81.3 million of marketable securities, net of $306.6 million of proceeds from sales and maturities. In 2021, we purchased $24.4 million of marketable securities, net of $485.2 million of proceeds from sales and maturities. We acquired $4.9 million and $2.7 million of intangible assets in the years ended December 31, 2022 and 2021, respectively. We purchased $38.5 million and $13.3 million of capital equipment for the years ended December 31, 2022 and 2021, respectively. We also purchased a $5.0 million convertible note for the year ended December 31, 2021.

Financing Activities

Net cash provided by financing activities during the years ended December 31, 2022 and 2021 consists primarily of cash from stock option exercises and the sales of shares under the Employee Stock Purchase Plan (ESPP). Net cash provided by financing activities decreased during 2022 from amounts reported for 2021 primarily from proceeds received from issuance of common stock in connection with our Janssen collaboration in 2021.

Contractual Obligations and Commitments

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 2018, we entered into a license agreement with BIO-TECHNE Corporation (BIO-TECHNE) for a non-exclusive license to a certain recombinant monoclonal antibody reactive with human programmed death protein, PD-1. 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 have not made any additional payments under this license agreement.

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 plamotamab 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%.

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 antibody and cytokine drug candidates: tidutamab, vudalimab, XmAb841, XmAb104, XmAb306, XmAb564 and XmAb819. The terms for each agreement are 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 2019, we made a milestone payment of CHF 75,000 in connection with an IND submission, and in 2020, we recorded a milestone payment due of CHF 75,000 in connection with an IND submission. In 2021, we recorded a milestone payment due of CHF 170,000 upon an initiation of Phase 2.

In September 2020, we entered into an agreement with MD Andersen in which we agreed to provide up to $10 million in funding over a five-year period in exchange for MD Andersen conducting clinical studies with our drug candidates. In December 2021, we amended the agreement to extend it an additional year at the same level of funding.

In August 2022 and in December 2022, we entered into agreements with Caris to license novel targets identified from their technology platform. The terms for the agreements provide that we may be obligated to pay development, regulatory and sales milestones for each target we elect to license in addition to royalties on net sales of approve products.

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 and commitment tables above.

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, cash equivalents and marketable securities have significant risk of default or illiquidity. While we believe our cash, cash equivalents and marketable securities 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, 2021, 2020 and 2019:

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors
Xencor, Inc.

Opinion on the Financial Statements
We have audited the accompanying balance sheets of Xencor, Inc. (the Company) as of December 31, 2022 and 2021, the related statements of comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 31, 2022, and the related notes to the financial statements (collectively, 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, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, 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, 2022, 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 24, 2023, expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

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.

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

Revenue Recognition Allocated to Research Services
As described in Note 10 to the financial statements, the Company is recognizing revenue allocated to research services over time. For research services revenue recognized over time, management utilizes the input method to measure progress toward the complete satisfaction of the performance obligations based upon the research hours incurred to date as a percentage of the total estimated research hours. We identified revenue recognition for this contract as a critical audit matter.

The principal consideration for our determination that revenue recognition for research services was a critical audit matter is that the measure of progress towards completion utilizes assumptions for future hours to complete the performance obligations, and those assumptions have significant estimation uncertainty. A significant change in the assumptions could affect the amount of revenue recognized in an accounting period. Given these factors, the related audit effort in evaluating management's judgments in determining the revenue recognition allocated to research services required significant audit effort and a high degree of auditor judgment and subjectivity to perform our audit procedures and evaluate the audit evidence obtained.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the financial statements. These procedures included testing the effectiveness of controls relating to revenue recognition, including controls over management's process for recognizing revenue over time. Our procedures included, among others (i) obtaining information regarding the nature and extent of progress from the Company's research team conducting the research activities; (ii) obtaining an understanding for significant changes in budgeted to actual hours; (iii) evaluating the progress towards completion of contracts based on hours incurred, and testing the appropriateness of the timing and amount of revenue recognized; and (iv) assessing management's sensitivity analyses over the significant assumptions to evaluate the impact of changes in estimated hours to complete that would result from changes in the underlying assumptions; and (v) assessing management's estimates based on updated information available after December 31, 2022.

/s/ RSM US LLP

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

Los Angeles, California
February 24, 2023

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of
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, 2022, 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, 2022, 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, 2022 and 2021, the related statements of comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 31, 2022, of the Company and our report, dated February 24, 2023, 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 accounting principles generally accepted in the United States of America (U.S. GAAP). 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 U.S. GAAP, 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 24, 2023

Xencor, Inc.

Balance Sheets

(in thousands, except share and per share data)

	December 31,	
	2022	2021
Assets		
Current assets		
Cash and cash equivalents	$ 53,942	$ 143,480
Marketable debt securities	526,689	153,767
Marketable equity securities	42,431	36,860
Accounts receivable	28,997	66,384
Prepaid expenses and other current assets	23,283	23,877
Total current assets	675,342	424,368
Property and equipment, net	59,183	28,240
Patents, licenses, and other intangible assets, net	18,500	16,493
Marketable debt securities - long term	3,826	300,465
Equity securities	54,383	31,262
Notes receivable - long term	—	5,000
Right of use asset	34,419	31,730
Other assets	613	653
Total assets	$ 846,266	$ 838,211
Liabilities and stockholders' equity		
Current liabilities		
Accounts payable	$ 10,088	$ 14,001
Accrued expenses	18,728	19,443
Lease liabilities	4,708	—
Deferred revenue	30,320	37,294
Total current liabilities	63,844	70,738
Lease liabilities, net of current portion	54,926	33,969
Total liabilities	118,770	104,707
Commitments and contingencies (see note 9)		
Stockholders' equity		
Preferred stock, $0.01 par value: 10,000,000 authorized shares; -0- issued and outstanding shares at December 31, 2022 and 2021	—	—
Common stock, $0.01 par value: 200,000,000 authorized shares; 59,997,713 issued and outstanding shares at December 31, 2022 and 59,355,558 issued and outstanding at December 31, 2021	601	595
Additional paid-in capital	1,072,132	1,017,523
Accumulated other comprehensive income	(6,952)	(1,510)
Accumulated deficit	(338,285)	(283,104)
Total stockholders' equity	727,496	733,504
Total liabilities and stockholders' equity	$ 846,266	$ 838,211

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,		
	2022	**2021**	**2020**
Revenue			
Collaborations, licenses, milestones, and royalties	$ 164,579	$ 275,111	$ 122,694
Operating expenses			
Research and development	199,563	192,507	169,802
General and administrative	47,489	38,837	29,689
Total operating expenses	247,052	231,344	199,491
Income (loss) from operations	(82,473)	43,767	(76,797)
Other income (expense)			
Interest income, net	4,817	849	7,264
Other income (expense), net	(286)	(1,274)	95
Gain on equity securities, net	23,434	39,289	105
Total other income, net	27,965	38,864	7,464
Income (loss) before income tax	(54,508)	82,631	(69,333)
Income tax expense	673	—	—
Net income (loss)	(55,181)	82,631	(69,333)
Other comprehensive income (loss)			
Net unrealized loss on marketable securities available-for-sale	(5,442)	(1,584)	(1,087)
Comprehensive income (loss)	$ (60,623)	$ 81,047	$ (70,420)
Net income (loss) per share attributable to common stockholders:			
Basic	$ (0.93)	$ 1.42	$ (1.21)
Diluted	$ (0.93)	$ 1.37	$ (1.21)
Weighted average shares used to compute net income (loss) per share attributable to common stockholders:			
Basic	59,652,461	58,379,641	57,212,737
Diluted	59,652,461	60,495,455	57,212,737

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 Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
Balance, December 31, 2019	56,902,301	$ 569	$ 887,873	$ 1,161	$ (296,402)	$ 593,201
Issuance of common stock upon exercise of stock awards	858,470	9	16,608	—	—	16,617
Issuance of common stock under the Employee Stock Purchase Plan	50,318	1	1,426	—	—	1,427
Issuance of restricted stock units	62,355	1	(1)			—
Comprehensive income	—	—	—	(1,087)	(69,333)	(70,420)
Stock-based compensation	—	—	31,619	—	—	31,619
Balance, December 31, 2020	57,873,444	580	937,525	74	(365,735)	572,444
Sale of common stock	748,062	7	28,913	—	—	28,920
Issuance of common stock upon exercise of stock awards	520,240	5	12,276	—	—	12,281
Issuance of common stock under the Employee Stock Purchase Plan	62,257	1	1,836	—	—	1,837
Issuance of restricted stock units	151,555	2	(2)	—	—	—
Comprehensive income	—	—	—	(1,584)	82,631	81,047
Stock-based compensation	—	—	36,975	—	—	36,975
Balance, December 31, 2021	59,355,558	595	1,017,523	(1,510)	(283,104)	733,504
Sale of common stock				—	—	—
Issuance of common stock upon exercise of stock awards	195,485	2	3,608	—	—	3,610
Issuance of common stock under the Employee Stock Purchase Plan	105,597	1	2,091	—	—	2,092
Issuance of restricted stock units	341,073	3	(3)	—	—	—
Comprehensive income	—	—	—	(5,442)	(55,181)	(60,623)
Stock-based compensation	—	—	48,913	—	—	48,913
Balance, December 31, 2022	**59,997,713**	**$ 601**	**$ 1,072,132**	**$ (6,952)**	**$ (338,285)**	**$ 727,496**

See accompanying notes to the financial statements.

Xencor, Inc.

Statements of Cash Flows

(in thousands)

	Year ended December 31,		
	2022	**2021**	**2020**
Cash flows from operating activities			
Net income (loss)	$ (55,181)	$ 82,631	$ (69,333)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation and amortization	8,799	7,491	5,794
Amortization of premium (accretion of discount) on marketable securities	127	3,160	(272)
Stock-based compensation	48,913	36,975	31,619
Abandonment of capitalized intangible assets	1,510	934	535
Loss on disposal of assets	145	462	4
Gain on sale of marketable securities available-for-sale	—	—	(153)
Equity received in connection with license agreement	(5,397)	(22,379)	(26,660)
Equity received in connection with sale of financial assets	—	(3,300)	—
Cash redemption of equity received in connection with license agreement	—	—	5,390
Change in fair value of equity securities	(23,434)	(20,988)	(105)
Equity securities impairment	138	762	—
Changes in operating assets and liabilities:			
Accounts receivable and contract assets	37,387	(54,941)	10,131
Interest receivable from marketable debt securities	(530)	655	1,190
Prepaid expenses and other assets	634	(13,151)	(4,170)
Income tax	—	—	895
Contract asset and deposits	—	12,059	(12,401)
Accounts payable	(3,913)	5,047	(1,235)
Accrued expenses	(715)	1,840	8,608
Lease liabilities and ROU assets	22,976	1,211	(325)
Deferred revenue	(6,974)	(55,321)	45,484
Net cash provided by (used in) operating activities	24,485	(16,853)	(5,004)
Cash flows from investing activities			
Proceeds from sale and maturities of marketable securities available-for-sale	306,607	485,152	757,617
Proceeds from sale of property and equipment	—	19	1
Purchase of marketable securities	(387,928)	(509,597)	(643,658)
Purchase of intangible assets	(4,910)	(2,682)	(3,229)
Purchase of property and equipment	(38,494)	(13,299)	(10,539)
Conversion (purchase) of convertible note	5,000	(5,000)	—
Exercise of stock options	—	(842)	—
Net cash provided by (used in) investing activities	(119,725)	(46,249)	100,192
Cash flows from financing activities			
Proceeds from issuance of common stock upon exercise of stock awards	3,610	12,281	16,617
Proceeds from issuance of common stock from Employee Stock Purchase Plan	2,092	1,837	1,427
Proceeds from issuance of common stock	—	28,920	—
Net cash provided by financing activities	5,702	43,038	18,044
Net (decrease) increase in cash and cash equivalents	(89,538)	(20,064)	113,232
Cash and cash equivalents, beginning of year	143,480	163,544	50,312
Cash and cash equivalents, end of year	$ 53,942	$ 143,480	$ 163,544
Supplemental disclosures of cash flow information			
Cash paid for:			
Interest	13	14	15
Taxes	700	—	—
Supplemental Schedule of Noncash Activities			
Net unrealized gain (loss) on marketable securities available-for-sale	(5,442)	(1,584)	(1,087)
Addition of right-of-use asset	$ 6,155	$ 24,047	$ 3,127

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 bispecific antibody and cytokine therapeutics to treat patients with cancer and autoimmune diseases who have unmet medical needs. We create our product candidates using our proprietary XmAb technology platforms, which focus on the portion of an 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, can increase antibody immune inhibition, improve cytotoxicity, extend half-life and most recently are used to create bispecific antibodies and cytokines.

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

Basis of Presentation

The Company's financial statements as of December 31, 2022, 2021, and 2020 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 GAAP requires management to make certain estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, other comprehensive gain (loss) and the related disclosures. On an ongoing basis, management evaluates its estimates, including estimates related to its accrued clinical trial and manufacturing development expenses, stock-based compensation expense, evaluation of intangible assets, investments, leases and other assets for evidence of impairment, fair value measurements, and contingencies. Significant estimates in these financial statements include estimates made for royalty revenue, accrued research and development expenses, stock-based compensation expenses, intangible assets, incremental borrowing rate for right-of-use asset and lease liability, estimated standalone selling price of performance obligations, estimated time for completing delivery of performance obligations under certain arrangements, the likelihood of recognizing variable consideration, the carrying value of equity instruments without a readily determinable fair value, and recoverability of deferred tax assets.

Recent Accounting Pronouncements

Pronouncements Not yet Effective

In June 2022, the Financial Accounting Standards Board (FASB) issued ASU No. 2022-03, *Fair Value Measurement (Topic 820): Fair Value Measurement of Equity Securities Subject to Contractual Sale Restriction*s, which is effective for fiscal years beginning on and after December 15, 2023, and interim periods within those fiscal years. The standard clarifies that a contractual restriction on the sale of an equity security is not considered part of the unit of account of the equity security and is not considered in measuring fair value. 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, research and development, and collaboration agreements generally include non-refundable upfront payments, research funding, co-development payments and 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 Accounting Standards Codification (ASC) 606, *Revenue from Contracts with Customers*, 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 $30.3 million and $37.3 million at December 31, 2022 and 2021, respectively.

Accounts Receivable

Accounts receivable primarily consists of royalty and milestone revenues receivable from our license and collaboration agreements, as well as receivables arising from cost-sharing development activities. We did not record an allowance for doubtful accounts at December 31, 2022 or 2021, as we expect to collect all receivables within the terms, which are generally between 30 and 60 days.

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 and 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 they incurred. 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 where such assets have an alternative use 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 Debt and Equity 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 and does not intend to sell these securities, and it is not more likely than not the Company will be required to sell the securities before recovery of the amortized cost basis. These assets are carried at fair value and any impairment losses and recoveries related to the underlying issuer's credit standing are recognized within other income (expense), while non-credit related impairment losses and recoveries are recognized within accumulated other comprehensive income (loss). There were no impairment losses or recoveries recorded for the years ended in December 31, 2022 and 2021, respectively. Accrued interest on

marketable debt securities is included in marketable securities' carrying value. Accrued interest was $1.3 million and $0.8 million at December 31, 2022 and 2021, respectively. Each reporting period, the Company reviews its portfolio of marketable debt securities, using both quantitative and qualitative factors, to determine if each security's fair value has declined below its amortized cost basis. During the years ended December 31, 2022 and 2021, the Company recorded an unrealized loss of $5.4 million and $1.6 million, respectively, in its portfolio of marketable debt securities. The unrealized losses were due to the changing interest rate environment and are not due to changes in the credit quality of the underlying securities. The unrealized losses were recorded in other comprehensive income (loss) for the years then ended.

The Company receives equity securities in connection with certain licensing transactions with its partners. These investments in an equity security are carried at fair value with changes in fair value recognized each period and reported within other income (expense). For equity securities with a readily determinable fair value, the Company remeasures these equity investments at each reporting period until such time that the investment is sold or disposed. If the Company sells an investment, any realized gains or losses on the sale of the securities will be recognized within other income (expense) in the Statement of Comprehensive Income (Loss) in the period of sale.

The Company also has investments in equity securities without a readily determinable fair value, where the Company elects the measurement alternative to record at their initial cost minus impairment, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. During the years ended December 31, 2022 and 2021, the Company recorded an impairment charge of $0.1 million and $0.8 million, respectively, in connection with equity securities without a readily determinable fair value.

During the years ended December 31, 2022 and 2021, the Company recorded a net gain of $23.4 million and $39.3 million, respectively, in connection with its equity investments.

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, 2022 and 2021 approximated $53.6 million and $143.2 million, respectively.

We have payables with two service providers that represent 45% of our total payables and with four service providers that represented 64% of our total payables at December 31, 2022 and 2021, respectively. We rely on five 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, 2022 or 2021.

We have receivables with four service providers that represent 91% of our total receivables and with two service providers that represent 84% of our total receivables at December 31, 2022 and 2021, respectively. The receivables are related to royalty revenues from our licensing and collaboration agreements. No other customer accounted for more than 10% of total receivables at December 31, 2022 or 2021.

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 a financial instrument is the amount that would be received in an asset sale or paid to transfer a liability in an orderly transaction between unaffiliated market participants. 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 ASC 820, *Fair Value Measurements and Disclosures*. 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, 2022			
	Total Fair Value	Level 1	Level 2	Level 3
Money Market Funds in Cash and Cash Equivalents	$ 40,967	$ 40,967	$ —	$ —
Corporate Securities	200,626	—	200,626	—
Government Securities	329,889	—	329,889	—
	$ 571,482	$ 40,967	$ 530,515	$ —

	December 31, 2021			
	Total Fair Value	Level 1	Level 2	Level 3
Money Market Funds in Cash and Cash Equivalents	$ 123,892	$ 123,892	$ —	$ —
Corporate Securities	144,418	—	144,418	—
Government Securities	309,814	—	309,814	—
	$ 578,124	$ 123,892	$ 454,232	$ —

Our policy is to record transfers of assets between Level 1 and Level 2 at their fair values as of the end of each reporting period, consistent with the date of the determination of fair value. During the years ended December 31, 2022 and 2021, there were no transfers between Level 1 and Level 2.

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 1 to 18 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 3 to 27 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 2022, 2021, and 2020, we abandoned previously capitalized patent and licensing related charges of $1.5 million, $0.9 million, and $0.5 million, respectively.

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

	December 31,	
	2022	2021
Patents, definite life	$ 14,535	$ 13,231
Patents, pending issuance	9,328	8,821
Licenses and other amortizable intangible assets	3,908	2,474
Nonamortizable intangible assets (trademarks)	399	399
Total gross carrying amount	28,170	24,925
Accumulated amortization—patents	(7,781)	(6,800)
Accumulated amortization—licenses and other	(1,889)	(1,632)
Total intangible assets, net	$ 18,500	$ 16,493

Amortization expense for patents, licenses, and other intangible assets was $1.4 million, $1.2 million, and $1.1 million for the years ended December 31, 2022, 2021, and 2020, respectively.

Future amortization expense for patent, licenses, and other intangible assets recorded as of December 31, 2022, and for which amortization has commenced, is as follows:

	Year ended December 31,
	(in thousands)
2023	$ 1,165
2024	1,123
2025	1,110
2026	1,097
2027	1,096
Thereafter	3,181
Total	$ 8,772

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, 2022, the Company has $9.3 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, 2022, 2021, or 2020.

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, 2022 or 2021.

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 of 2017 (TCJA) enacted on December 22, 2017 included several key provisions impacting the 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 corporate Alternative Minimum Tax (AMT) system, and made changes to the carryforward of net operating losses beginning on January 1, 2018. The TCJA changed the income tax treatment of research and development expenses requiring such costs to be capitalized and amortized over several years beginning effective January 1, 2022. The tax reform also provided for a refund of unused AMT carryforwards for years beginning after December 31, 2017. We received an income tax refund during the year ended December 31, 2020 of $0.8 million each year related to our 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, restricted stock units (RSUs), 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 $48.9 million, $37.0 million, and $31.6 million for the years ended December 31, 2022, 2021, and 2020, respectively.

Net Income (Loss) Per Share

Basic net income (loss) per common share is computed by dividing the net income (loss) attributable to common stockholders by the weighted-average number of common shares outstanding during the period without consideration of common stock equivalents. Diluted net income (loss) per common share is computed by dividing the net income (loss) attributable to common stockholders by the weighted-average number of common stock equivalents outstanding for the period. Potentially dilutive securities consisting of stock issuable pursuant to outstanding options and restricted stock units

(RSUs), and stock issuable pursuant to the 2013 Employee Stock Purchase Plan (ESPP) are not included in the per common share calculation in periods when the inclusion of such shares would have an anti-dilutive effect.

Basic and diluted net income (loss) per common share is computed as follows:

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 were included in the diluted net income per common share calculation for 2021.

In 2022 and 2020, we excluded all options and awards from the calculations because we reported net losses in the period, and the inclusion of such shares would have had an antidilutive effect.

	Year Ended December 31,		
	2022	2021	2020
	(in thousands, except share and per share data)		
Basic			
Numerator:			
Net income (loss) attributable to common stockholders for basic net income (loss) per share	$ (55,181)	$ 82,631	$ (69,333)
Denominator:			
Weighted-average common shares outstanding	59,652,461	58,379,641	57,212,737
Basic net income (loss) per common share	$ (0.93)	$ 1.42	$ (1.21)
Diluted			
Numerator:			
Net income (loss) attributable to common stockholders for diluted net income (loss) per share	$ (55,181)	$ 82,631	$ (69,333)
Denominator:			
Weighted average number of common shares outstanding used in computing basic net income (loss) per common share	59,652,461	58,379,641	57,212,737
Dilutive effect of employee stock options, RSUs, and ESPP	—	2,115,814	—
Weighted-average number of common shares outstanding used in computing diluted net income (loss) per common share	59,652,461	60,495,455	57,212,737
Diluted net income (loss) per common share	$ (0.93)	$ 1.37	$ (1.21)

For the years ended December 31, 2022 and 2020, all outstanding potentially dilutive securities were excluded from the calculation as the effect of including such securities would have been anti-dilutive. For the year ended December 31, 2021, we excluded 1,196,268 shares of options and RSUs from the calculation of diluted net income per common share because the inclusion of such shares would have had an anti-dilutive effect.

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, 2022, 2021, and 2020, the only component of other comprehensive income (loss) is net unrealized gain (loss) on marketable debt securities. There were no material reclassifications out of accumulated other comprehensive loss during the year ended December 31, 2022.

3. Marketable Debt and Equity Securities

The Company's marketable debt securities held as of December 31, 2022 and 2021 are summarized below:

	December 31, 2022			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
(in thousands)				
Money Market Funds	$ 40,967	$ —	$ —	$ 40,967
Corporate Securities	201,752	—	(1,126)	200,626
Government Securities	335,705	3	(5,819)	329,889
	$ 578,424	$ 3	$ (6,945)	$ 571,482
Reported as				
Cash and cash equivalents				$ 40,967
Marketable securities				530,515
Total investments				$ 571,482

	December 31, 2021			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
(in thousands)				
Money Market Funds	$ 123,892	$ —	$ —	$ 123,892
Corporate Securities	144,584	—	(166)	144,418
Government Securities	311,148	1	(1,335)	309,814
	$ 579,624	$ 1	$ (1,501)	$ 578,124
Reported as				
Cash and cash equivalents				$ 123,892
Marketable securities				454,232
Total investments				$ 578,124

The maturities of the Company's marketable debt securities as of December 31, 2022 are as follows:

	Amortized Cost	Estimated Fair Value
(in thousands)		
Mature in one year or less	$ 533,626	$ 526,689
Mature within two years	3,831	3,826
	$ 537,457	$ 530,515

The unrealized losses on available-for-sale investments and their related fair values as of December 31, 2022 and 2021 are as follows:

	December 31, 2022			
	Less than 12 months		12 months or greater	
	Fair value	Unrealized losses	Fair value	Unrealized losses
(in thousands)				
Corporate Securities	$ 132,658	$ (1,121)	$ 3,826	$ (5)
Government Securities	324,933	(5,819)	—	—
	$ 457,591	$ (6,940)	$ 3,826	$ (5)

	December 31, 2021			
	Less than 12 months		12 months or greater	
	Fair value	Unrealized losses	Fair value	Unrealized losses
(in thousands)				
Corporate Securities	$ 50,337	$ (51)	$ 45,872	$ (115)
Government Securities	39,909	(54)	254,593	(1,281)
	$ 90,246	$ (105)	$ 300,465	$ (1,396)

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.

The Company's equity securities include securities with a readily determinable fair value. These investments are carried at fair value with changes in fair value recognized each period and reported within other income (expense). Equity securities with a readily determinable fair value and their fair values (in thousands) as of December 31, 2022 and 2021 are as follows:

	Fair Value December 31, 2022	Fair Value December 31, 2021
Astria Common Stock	$ 9,529	$ 3,449
INmune Common Stock	11,954	19,233
Viridian Common Stock	20,948	14,178
	$ 42,431	$ 36,860

The Company also has investments in equity securities without a readily determinable fair value. The Company elects the measurement alternative to record these investments at their initial cost and evaluates such investments at each reporting period for evidence of impairment or observable price changes in orderly transactions for the identical or a similar investment of the same issuer. During the year ended December 31, 2022, the Company recorded an impairment charge of $0.1 million related to the Astria preferred stock. Equity securities without a readily determinable fair value and their carrying values (in thousands) as of December 31, 2022 and 2021 are as follows:

	Carrying Value December 31, 2022	Carrying Value December 31, 2021
Astria Preferred Stock	$ 174	$ 312
Zenas Preferred Stock	54,209	30,950
	$ 54,383	$ 31,262

In 2018, the Company received equity shares in Quellis Biosciences, Inc. (Quellis) in connection with a licensing transaction. In 2021, Quellis merged into Catabasis Pharmaceuticals, Inc. (Catabasis), and the Company received common and preferred stock in Catabasis in exchange for its Quellis equity. In June 2021, shares of the Catabasis preferred stock were exchanged for shares of Catabasis common stock; the shares of the Catabasis common stock have a readily determinable fair value. In September 2021, Catabasis changed its name to Astria Therapeutics, Inc. (Astria). The Company accounts for the shares in Astria common stock at their fair value each reporting period and the adjustment in the fair value of the Astria common stock has been recorded in unrealized gain (loss) on equity securities for the year ended December 31, 2022.

The Company records its investment in the shares of Astria preferred stock as an equity interest without a readily determinable fair value. The Company elected to record the original shares of preferred stock at their initial cost and to review the carrying value for impairment or other changes in carrying value at each reporting period. The Company subsequently recorded impairment charges of $0.1 million and $0.8 million related to its investment in Astria's preferred stock in 2022 and 2021, respectively.

In 2017, the Company received shares of common stock of INmune Bio, Inc. (INmune) and an option to acquire additional shares of INmune's common stock in connection with a licensing transaction. The Company received a second option to acquire additional shares of INmune common stock in connection with a designee appointed by us serving on the board of directors of INmune. The Company originally recorded its investment at cost pursuant to ASC 323, *Investments – Equity Method and Joint Ventures*. In June 2021, the Company entered into an Option Cancellation Agreement with INmune and received $15.0 million in proceeds and an additional shares of INmune common stock in exchange for the initial option. During 2021, the Company determined that it should no longer account for its investment in INmune under the equity method. In September 2021, the Company exercised its second option to purchase 108,000 shares of INmune common stock for $0.8 million and the Company recorded a gain of $0.9 million on the purchase. The Company's current share holdings, which consist of common stock of INmune, have a readily determinable fair value, and the adjustment in the fair value of the shares of INmune common stock was recorded in gain (loss) on equity securities for the year ended December 31, 2022.

In December 2021, the Company received shares of common stock of Viridian Therapeutics, Inc. (Viridian) in connection with the Viridian Agreement. In December 2022, the Company received additional shares of common stock of Viridian in connection with the Second Viridian Agreement (defined below). The shares of Viridian common stock are classified as equity securities with a readily determinable fair value and the adjustment in the fair value of the shares of Viridian common stock was recorded in gain (loss) on equity securities for the year ended at December 31, 2022.

In 2020, the Company received an equity interest in Zenas BioPharma Limited (Zenas), in connection with the Zenas Agreement (defined below). The Company elected the measurement alternative to carry the Zenas equity at cost minus impairment, plus or minus changes resulting from observable price changes in orderly transactions for an identical or a similar investment of the same issuer. In 2021, the Company received a warrant to receive equity from Zenas in connection with the Second Zenas Agreement (defined below). In 2021, the Company purchased a convertible promissory note from Zenas. In 2022, the Zenas warrant was exchanged for additional equity in Zenas. In 2022, the convertible note and accrued interest through the conversion date were exchanged for equity shares in Zenas. We recognized an unrealized gain of $21.9 million from the warrant exchange and the conversion of the promissory note. During the year ended December 31, 2022, there was no impairment related to this investment.

Unrealized gains and losses recognized on equity securities (in thousands) during the year ended December 31, 2022 and 2021 consist of the following:

	Year Ended December 31,	
	2022	2021
Net gains recognized on equity securities	$ 23,434	$ 39,289
Less: net gains recognized on equity securities redeemed	—	18,301
Unrealized gain (losses) recognized on equity securities	$ 23,434	$ 20,988

4. Sale of Additional Common Stock

Under the terms of the Stock Purchase Agreement (defined below), Johnson & Johnson Innovation, JJDC, Inc. (JJDC), purchased $25.0 million of newly issued unregistered shares of the Company's common stock, priced at a 30-day volume-weighted average price of $33.4197 per share as of October 1, 2021. The Company issued 748,062 shares of common stock to JJDC on November 12, 2021. The issued shares are subject to customary resale restrictions pursuant to Rule 144 of the Securities Act of 1933.

5. Property and Equipment

Property and equipment consist of the following:

	December 31,	
	2022	2021
	(in thousands)	
Computers, software and equipment	$ 45,159	$ 41,955
Furniture and fixtures	539	539
Leasehold and tenant improvements	41,774	8,574
Total gross carrying amount	87,472	51,068
Less accumulated depreciation and amortization	(28,289)	(22,828)
Total property and equipment, net	$ 59,183	$ 28,240

Leasehold and tenant improvements consist primarily of leasehold construction at our new Pasadena headquarters.

Depreciation expense related to property and equipment in 2022, 2021, and 2020 was $7.4 million, $6.3 million, and $4.7 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. The provision for income taxes for the year ended December 31, 2022 was $0.7 million.There was no provision for taxes for the years ended December 31, 2021 and December 31, 2020.

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

	Year Ended December 31,		
	2022	2021	2020
Federal statutory income tax	$ (11,447)	$ 17,352	$ (14,559)
State and local income taxes	(615)	783	(4,659)
Research and development credit	(9,366)	(10,492)	(9,669)
Stock-based compensation	3,384	2,424	529
Foreign-derived intangible income	(1,449)	—	—
Other	(74)	95	56
Change in state rate	44	2,599	—
Net change in valuation allowance	20,196	(12,761)	28,302
Income tax provision	$ 673	$ —	$ —

The tax effect of temporary differences that give rise to a significant portion of the deferred tax assets and liabilities at December 31, 2022 and 2021 is presented below (in thousands):

	December 31,	
	2022	2021
Deferred income tax assets		
Net operating loss carryforwards	$ 32,898	$ 46,629
Research credits	54,825	48,128
Unrealized loss on securities	1,573	327
Capitalized lease assets	5,564	489
Accrued compensation	14,484	9,207
Capitalized research and development costs	21,338	—
Gross deferred income tax assets	130,682	104,780
Valuation allowance	(115,010)	(93,580)
Net deferred income tax assets	15,672	11,200
Deferred income tax liabilities		
Patent costs	(2,885)	(3,416)
Deferred revenue	3,225	(3,508)
Licensing costs	(124)	(151)
Capitalized legal costs	(9)	(13)
Depreciation	(6,532)	(288)
Unrealized gain on securities	(9,347)	(3,824)
Gross deferred income tax liabilities	(15,672)	(11,200)
Net deferred income tax asset	$ —	$ —

The Tax Cuts and Jobs Act of 2017 (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. We have received an income tax refund of $0.8 million for the year ended December 31, 2020 for U.S. AMT credit carryforwards. The other significant change made by the TCJA requires research and development costs incurred after December 31, 2021 to be capitalized and amortized over several years. We have recorded a deferred asset as of December 31, 2022 for such capitalized research and development costs. We have net deferred tax assets relating primarily to net operating loss carryforwards and research and development tax credit carryforwards. 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, 2022 and 2021. 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, 2022, the valuation allowance increased by $21.4 million. The Company's tax years starting in 2018 through 2021 remain open to potential examination by the U.S. and state taxing authorities due to carryforwards of net operating losses.

As of December 31, 2022, we had cumulative net operating loss carryforwards for federal and state income tax purposes of $102.4 million and $162.1 million, respectively, and available tax credit carryforwards of approximately $38.7 million for federal income tax purposes and $20.4 million for state income tax purposes, which can be carried forward to offset future taxable income, if any. The federal net operating loss carryforwards consist of $59.0 million of losses incurred prior to January 1, 2018, which are subject to carryforward limitations and $43.4 million of losses incurred after January 1, 2018, which may be carried forward indefinitely.

Our federal net operating loss carryforwards expire starting in 2027, state net operating loss carryforwards expire starting in 2035, and federal tax credit carryforwards begin to expire in 2034. Utilization of our net operating loss and tax credit carryforwards are subject to a substantial annual limitation under Section 382 of the Code due to the fact that we have experienced ownership changes. As a result of these changes, certain of our net operating loss and tax credit carryforwards may expire 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 2, 2013, the date of the pricing 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, 2022, the total number of shares of common stock available for issuance under the 2013 Plan was 14,792,799. 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 immediately preceding year. On January 1, 2022, the total number of shares of common stock available for issuance under the 2013 Plan was increased by 2,374,222 shares, which is included in the number of shares available for issuance above. As of December 31, 2022, a total of 14,535,306 options have been granted under the 2013 Plan.

As of December 31, 2022, the Company has awarded 1,999,817 RSUs to certain employees pursuant to the 2013 Plan. Vesting of these awards will be annually over equal installments, either a two or three-year vesting period, 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.

As of December 31, 2022, the total number of shares of common stock available for issuance under the ESPP is 539,392. 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. Pursuant to approval by our board, the total number of shares of common stock available for issuance under the ESPP was increased by 593,555 shares on January 1, 2022. As of December 31, 2022, we have issued a total of 635,449 shares of common stock under the ESPP.

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

	Year Ended December 31,		
(in thousands)	**2022**	**2021**	**2020**
General and administrative	$ 17,281	$ 12,813	$ 10,769
Research and development	31,632	24,162	20,850
	$ 48,913	$ 36,975	$ 31,619

(in thousands)	Year Ended December 31, 2022	2021	2020
Stock options	$ 29,758	$ 27,909	$ 26,045
ESPP	1,174	992	804
RSUs	17,981	8,074	4,770
	$ 48,913	$ 36,975	$ 31,619

Information with respect to stock options outstanding is as follows:

	December 31, 2022	2021	2020
Exercisable options	6,679,948	5,576,430	4,668,179
Weighted average exercise price per share of exercisable options	$ 26.99	$ 24.15	$ 21.75
Weighted average grant date fair value per share of options granted during the year	$ 15.45	$ 21.65	$ 16.96
Options available for future grants	3,622,319	3,597,371	3,346,092
Weighted average remaining contractual life	6.30	6.65	7.00

The following table summarizes stock option activity for the years ended December 31, 2022 and 2021:

	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, 2019	7,174,319	$ 24.03	7.32	$ 79,116
Options granted	1,679,324	33.08		
Options forfeited	(243,384)	32.93		
Options exercised[3]	(858,470)	19.36		
Balances at December 31, 2020	7,751,789	26.23	7.00	$ 134,941
Options granted	1,827,234	41.22		
Options forfeited	(382,454)	36.15		
Options exercised[3]	(520,240)	23.61		
Balances at December 31, 2021	8,676,329	29.11	6.65	$ 100,057
Options granted	2,135,233	29.45		
Options forfeited	(533,435)	34.09		
Options exercised[3]	(195,485)	18.46		
Balances at December 31, 2022	10,082,642	$ 29.12	6.30	$ 27,141
As of December 31, 2022				
Options vested and expected to vest	10,082,642	$ 29.12	6.30	$ 27,141
Exercisable	6,679,948	$ 26.99	5.10	$ 26,979

(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, 2022 and 2021.

(3) The total intrinsic value of stock options exercised was $1.6 million, $9.2 million, and $16.3 million for the years ended December 31, 2022, 2021 and 2020 respectively.

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 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, 2022, 2021 and 2020:

	Options		
	2022	**2021**	**2020**
Common stock fair value per share	$19.74 - 38.08	$30.65- 49.47	$20.69 - 45.91
Expected volatility	51.51% - 54.36%	53.91% - 56.82%	52.93% - 58.95%
Risk-free interest rate	1.57% - 4.34%	0.47% - 1.33%	0.29% - 1.71%
Expected dividend yield	—	—	—
Expected term (in years)	6.00 - 7.65	6.00 - 7.65	5.23 - 7.65

	ESPP		
	2022	**2021**	**2020**
Expected term (years)	0.5 - 2.0	0.5 - 2.0	0.5 - 2.0
Expected volatility	43.19% - 55.72%	46.08% - 66.37%	50.77% - 66.37%
Risk-free interest rate	0.13% - 4.72%	0.04% - 1.65%	0.09% - 1.65%
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, 2022, 2021, and 2020 was determined using a blended volatility by examining the historical volatility for industry peer companies and the volatility of our stock from the effective date that our shares were publicly traded on a national stock exchange.

We determined the average expected life of stock options based on the anticipated time period between the measurement date and the exercise date by examining the option holders' past exercise patterns.

The risk-free interest rate assumption is based on the U.S. Treasury instruments, for which the 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. We have not paid dividends and did not have any dividend payout at December 31, 2022.

The following table summarizes RSU activity for the years ended December 31, 2022:

	Number of Shares	Weighted-Average Grant Date Fair Value (Per Unit)
Unvested at December 31, 2019	90,006	$ 34.66
Granted	348,288	32.51
Vested	(62,355)	32.61
Forfeited	(17,114)	32.33
Unvested at December 31, 2020	358,825	$ 33.04
Granted	670,700	39.11
Vested	(151,555)	32.76
Forfeited	(51,822)	36.68
Unvested at December 31, 2021	826,148	$ 37.79
Granted	875,330	29.45
Vested	(341,073)	37.37
Forfeited	(127,854)	33.66
Unvested at December 31, 2022	1,232,551	$ 32.41

As of December 31, 2022 and 2021, the unamortized compensation expense related to unvested stock options was $52.6 million and $54.5 million, respectively. The remaining unamortized compensation expense will be recognized over the next 2.43 years. At December 31, 2022 and 2021, the unamortized compensation expense was $1.2 million and $2.3 million respectively under our ESPP. The remaining unamortized expense will be recognized over the next 0.94 years. At December 31, 2022 and 2021, the unamortized compensation expense related to unvested restricted stock units was $28.3 million and $24.8 million, respectively. The remaining unamortized compensation expense will be recognized over the next 1.90 years.

8. Leases

The Company leases office and laboratory space in Monrovia, California under two separate leases that expire in January 2023 and December 2025, respectively with an option to renew for an additional five years at then market rates. The Company has assessed that it is unlikely to exercise the lease term extension option. For the year ended December 31, 2022, ROU assets obtained in exchange for new operating lease liabilities are $0.3 million.

The Company leases additional office space in San Diego, California through August 2022, with an option to extend for an additional five years. In May 2022, the Company entered into an amendment to the lease to extend the lease term through December 31, 2023. The Company has assessed that it is unlikely to exercise the option to extend the lease term.

In June 2021, the Company entered into an 18-month lease for office space in Monrovia, California. The lease began August 1, 2021 and terminated January 31, 2023. ROU assets obtained in exchange for new operating lease liabilities are $0.3 million

In June 2021, the Company entered into an Agreement of Lease (the Halstead Lease) relating to 129,543 rentable square feet, for laboratory and office space, in Pasadena, California, where the Company intends to move its corporate headquarters in the first quarter of 2023. The term of the Halstead Lease will become effective in two phases. The first phase commences on July 14, 2021 and encompasses 83,083 square feet while the second phase commences no later than July 1, 2025 and encompasses an additional 46,460 square feet. The term of the Halstead Lease is 13 years from the first phase commencement date. The Company received delivery of the first phase premises on July 1, 2021 and is scheduled to complete construction of office, laboratory, and related improvements in the second half of 2022. The Halstead Lease provides the Company with improvement allowances of up to $17.0 million and $3.3 million in connection with the Phase 1 and Phase 2 building improvements, respectively. The initial base monthly rent is $386,336, or $4.65 per square foot, and

includes increases of three percent annually. The Company will also be responsible for its proportionate share of operating expenses, tax expense, and utility costs.

In July 2021, the Halstead Lease was amended to clarify the start date of the new lease to August 1, 2022 and to amend other provisions of the Halstead Lease to reflect the new start date of the lease. In August 2022, the Halstead lease was amended to increase the amount of the tenant allowance by$5.0 million with a corresponding increase in total rental payments. The Company is eligible to receive total tenant allowance under the lease for the phase 1 space of $22.0 million and the initial base rent is increased to $416,246 , or $5.01 per square foot. For the year ended December 31, 2021, ROU assets obtained in exchange for new operating lease liabilities are $29.7 million.

The Company received delivery of the second phase premises on December 1, 2022. For the year ended December 31, 2022, ROU assets obtained in exchange for new operating lease liabilities are $15.3 million.

The Company's lease agreements do not contain any residual value guarantees or restrictive covenants.

The following table reconciles the undiscounted cash flows for the operating leases at December 31, 2022 to the operating lease liabilities recorded on the balance sheet (in thousands):

Years ending December 31,	
2023	$ 6,558
2024	6,072
2025	7,392
2026	8,589
2027	8,829
Thereafter	75,512
Total undiscounted lease payments	112,952
Less: Tenant allowance	(5,459)
Less: Imputed interest	(47,859)
Present value of lease payments	$ 59,634
Lease liabilities - short-term	$ 4,708
Lease liabilities - long-term	54,926
Total lease liabilities	$ 59,634

The following table summarizes lease costs, cash, and other disclosures for the years ended December 31, 2022, 2021, and 2020 (in thousands):

	Year Ended December 31,		
	2022	**2021**	**2020**
Operating lease cost	$ 6,588	$ 4,342	$ 2,503
Variable lease cost	506	58	150
Total lease costs	$ 7,094	$ 4,400	$ 2,653
Cash paid for amounts included in the measurement of lease liabilities	$ 2,869	$ 2,773	$ 2,233
Weighted-average remaining lease term —operating leases (in years)	12.0	12.3	7.4
Weighted-average discount rate —operating leases	8.9 %	5.8 %	5.5 %

9. Commitments and Contingencies

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.

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, 2022 and 2021.

10. 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, 2022, 2021, and 2020. The revenue reported for each agreement has been adjusted to reflect the adoption of ASC 606 for each period presented.

Aimmune Therapeutics, Inc.

In 2020, the Company entered into a License, Development and Commercialization Agreement (the Aimmune Agreement) with Aimmune Therapeutics, Inc. (Aimmune) pursuant to which the Company granted Aimmune an exclusive worldwide license to XmAb7195, which was renamed AIMab7195. The Company received an upfront payment and is eligible to receive development, regulatory and, sales and tiered royalties on net sales of approved products from high-single to mid-teen percentage range.

No revenue was recognized for the year ended December 31, 2022 and 2021. There is no deferred revenue as of December 31, 2022 or 2021 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. Alexion exercised its rights to include our technology in ALXN1210, which is now marketed as Ultomiris.

The Company is eligible to receive contractual milestones for certain commercial achievements, and 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 2020, Alexion completed certain regulatory submissions for Ultomiris, and the Company received a total of $10.0 million in milestone payments. During 2020, the Company also recorded royalty revenue of $16.2 million in connection with reported net sales of Ultomiris by Alexion.

In 2021, the Company recorded royalty revenue of $22.2 million on net sales.

In 2022, the Company recorded royalty revenue of $29.4 million on net sales.

The total revenue recognized under this arrangement was $29.4 million, $22.2 million, and $26.2 million for the years ended December 31, 2022, 2021, and 2020, respectively. As of December 31, 2022, there is a receivable of $14.8 million, and there is no deferred revenue related to this agreement.

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. Amgen has advanced one of the discovery programs, now AMG509, into clinical development. The Company is eligible to receive future development, regulatory and sales milestones in total for the program and is eligible to receive royalties on any global net sales of products.

No revenue was recognized for the year ended December 31, 2022, 2021, or 2020. As of December 31, 2022, there was no deferred revenue related to the arrangement.

Astellas Pharma Inc.

Effective March 2019, the Company entered into a Research and License Agreement (Astellas Agreement) with Astellas Pharma Inc. (Astellas) pursuant to which the Company and Astellas conducted a discovery program to characterize compounds and products for development and commercialization. Under the Astellas Agreement, Astellas was granted a worldwide exclusive license, with the right to sublicense products in the field created by the research activities.

The Company received an upfront payment and is eligible to receive development, regulatory and sales milestones. If commercialized, the Company is eligible to receive royalties on net sales that range from the high-single to low-double digit percentages.

Astellas has advanced an antibody that was delivered into development, and we received a milestone related to the candidate in 2020. Astellas advanced the candidate into Phase 1 studies in 2022 and we received a $5.0 million milestone. The Company recognized $2.5 million of revenue in 2020, and $5.0 million of revenue in 2022 under the agreement. There is no deferred revenue as of December 31, 2022.

Astria Therapeutics, Inc.

In May 2018, the Company entered into an agreement with Quellis, pursuant to which the Company provided Quellis a non-exclusive license to its Xtend Fc technology. The Company received an equity interest in Quellis and is eligible to receive development, regulatory and sales milestones. The Company is also eligible to receive royalties in the mid-single digit percentage range on net sales of approved products.

In January 2021, Quellis merged into Catabasis, and the Company received common stock and preferred stock of Catabasis in exchange for its equity in Quellis. The Company recognized an increase in the fair value of its equity interest for the exchange of shares, which was recorded as unrealized gain for the three months ended March 31, 2021. In June 2021, a portion of the Company's preferred stock in Catabasis was converted to common stock, which was recorded at its fair value as of June 30, 2021. The remaining Catabasis preferred stock is carried at its original cost and is reviewed for impairment or other changes at each reporting period. In September 2021, Catabasis changed its name to Astria. The Company recorded an impairment charge of $0.1 million for its investment in Astria preferred stock for the year ended December 31, 2022.

The Company recognized unrealized gain of $6.1 million and $4.5 million related to its equity interest in Astria for the years ended December 31, 2022 and 2021, respectively. There is no deferred revenue as of December 31, 2022 related to this agreement.

Genentech, Inc., and F. Hoffmann-La Roche Ltd.

In February 2019, the Company entered into a collaboration and license agreement (the Genentech Agreement) with Genentech, Inc. and F. Hoffman-La Roche Ltd (collectively, Genentech) for the development and commercialization of novel IL-15 collaboration products (Collaboration Products), including XmAb306, the Company's IL-15/IL15Rα-Fc candidate.

Under the terms of the Genentech Agreement, Genentech received an exclusive worldwide license to XmAb306 and Genentech and Xencor will jointly collaborate on worldwide development of XmAb306.

The Company determined that the transaction price of the Genentech Agreement at inception was $120.0 million consisting of the upfront payment, and allocated the transaction price to each of the separate performance obligations using the relative standalone selling price with $111.7 million allocated to the license to XmAb306, $4.1 million allocated to the additional program and $4.2 million allocated to the research services.

The Company recognized the $111.7 million allocated to the license when it satisfied its performance obligation and transferred the license to Genentech in March 2019, and the $8.3 million allocated to the research activities was recognized over a period of time through the end of the research term or the time that a program is delivered to Genentech. The research term expired in the first half of 2021, and the balance in deferred revenue related to the Genentech Agreement was recognized as the Company is no longer required to render services.

No revenue was recognized for the year ended December 31, 2022. For the years ended December 31, 2021 and 2020, we recognized $2.5 million and $3.5 million of income, respectively, from the Genentech Agreement. As of December 31, 2022, there was a $0.2 million receivable related to cost-sharing development activities during the fourth quarter of 2022. There is no deferred revenue as of December 31, 2022.

Gilead Sciences, Inc.

In January 2020, the Company entered into a Technology License Agreement (the Gilead Agreement) with Gilead Sciences, Inc. (Gilead), in which the Company provided Gilead an exclusive license to its Cytotoxic Fc and Xtend Fc technologies for an initial identified antibody and options for up to three additional antibodies directed to the same molecular target. Gilead is responsible for all development and commercialization activities for all target candidates. The Company received an upfront payment and is eligible to receive development, regulatory and, sales milestones for each product incorporating the antibodies selected. In addition, the Company is eligible to receive royalties in the low-single digit percentage range on net sales of approved products.

In the second quarter of 2020, Gilead exercised options on three additional antibody compounds, and in April 2020, we received a total of $7.5 million in payment of the three options.

No revenue was recognized for the year ended December 31, 2022 and 2021. The Company recognized $13.5 million of revenue related to the Gilead Agreement for the year ended December 31, 2020. There is no deferred revenue as of December 31, 2022 related to this agreement.

INmune Bio, Inc.

In October 2017, the Company entered into a License Agreement (the INmune Agreement) with INmune. Under the terms of the INmune Agreement, the Company provided INmune with an exclusive license to certain rights to a proprietary protein, XPro1595. In connection with the agreement the Company received shares of INmune common stock and an option to acquire additional shares of INmune. The Company also received a second option to acquire additional shares of INmune common stock with a designee appointed by us serving on the board of directors of INmune.

The Company initially recorded its equity interest in INmune, including its option to acquire additional INmune shares, at cost pursuant to ASC 323.

In June 2021, the Company entered into the First Amendment to License Agreement (the Amended INmune Agreement) and an Option Cancellation Agreement (the Option Agreement) with INmune. The Amended INmune

Agreement modified certain diligence provisions in the INmune Agreement with no change in total consideration or performance obligations. The Option Agreement provided for the sale of the initial option to INmune for the total consideration of $18.3 million which includes $15.0 million in cash and additional shares of INmune common stock. The Company recorded a realized gain of $18.3 million according to ASC 860, *Transfer and Servicing*, and recorded the additional shares of INmune common stock according to ASC 321, *Investments – Equity Securities*.

During the three months ended June 30, 2021, the Company determined that it should no longer record its investment in INmune under the equity method and recorded its investment in INmune pursuant to ASC 321. The Company adjusted the carrying value of this investment by recognizing an unrealized gain of $27.8 million as other income for the three months ended June 30, 2021.

In September 2021, the Company exercised its second to purchase additional shares of INmune common stock for $0.8 million. The Company recognized an unrealized gain of $2.0 million, which consists of $1.1 million of fair value of the option and $0.9 million gain on the purchase, as other income for the three months ended September 30, 2021.

For the year ended December 31, 2022, the Company recorded $7.3 million of unrealized loss related to its investment in INmune. For the year ended December 31, 2021, the Company recorded $15.1 million of unrealized gain and $18.3 million of realized gain related to its investment in INmune. No revenue was recognized for the years ended December 31, 2022, 2021, or 2020.

At the inception of the INmune Agreement in 2017, INmune was a related party as a result of the Company's significant influence with respect to its investment in INmune, as determined under ASC 323. The Company did not have any amounts due to or from INmune at December 31, 2022 or 2021. At June 30, 2021, the Company determined that it no longer has a significant influence in INmune and that INmune is no longer a related party.

Janssen Biotech, Inc.

Janssen Agreement

In November 2020, the Company entered into a Collaboration and License Agreement (the Janssen Agreement) with Janssen Biotech, Inc. (Janssen) pursuant to which Xencor and Janssen conducted research and development activities to discover novel CD28 bispecific antibodies for the treatment of prostate cancer. Janssen and Xencor will conducted joint research activities to discover XmAb bispecific antibodies against CD28 and against an undisclosed prostate tumor-target with Janssen maintaining exclusive worldwide rights to develop and commercialize Licensed Products identified from the research activities.

Under the Janssen Agreement, the Company will conduct research activities and apply its bispecific Fc technology to antibodies targeting prostate cancer provided by Janssen. Upon completion of the research activities Janssen will have a candidate selection option to advance an identified candidate for development and commercialization. The activities will be conducted under a research plan agreed to by both parties. Janssen will assume full responsibility for development and commercialization of the CD28 bispecific antibody candidate. Pursuant to the Janssen Agreement, the Company received an upfront payment and is eligible to receive development, regulatory and, sales milestones. If commercialized, the Company is eligible to receive royalties on net sales that range from the high-single to low-double digit percentages.

Pursuant to the Janssen Agreement, upon development of a bispecific candidate by Janssen through proof of concept, we have the right to opt-in to fund 20% of development costs and to perform 30% of detailing efforts in the U.S. If we exercise this right, we will be eligible to receive tiered royalties in the low-double digit to mid-teen percentage range.

The Company allocated the transaction price to the single performance obligation, delivery of CD28 bispecific antibodies to Janssen.

The Company recognized the $50.0 million transaction price as it satisfied its performance obligation to deliver CD28 bispecific antibodies to Janssen. The Company recognized revenue related to the performance obligation over the expected period of time to complete and deliver the CD28 bispecific antibodies to Janssen using the expected input method which considers an estimate of the Company’s efforts to complete the research activities outlined in the Janssen Agreement.

In November 2021, the Company completed its performance obligations under the research activities and delivered CD28 bispecific antibodies to Janssen. In December 2021, Janssen selected a bispecific CD28 candidate for further development, and we received a milestone of $5.0 million. For the year ended December 31, 2021 the Company recognized as revenue the $50.0 million transaction price in connection with the completion of the research activities and the $5.0 million milestone for selection of an antibody candidate by Janssen. No revenue was recognized under this agreement in 2022.

Second Janssen Agreement

On October 1, 2021, the Company entered into a second Collaboration and License Agreement (the Second Janssen Agreement) with Janssen pursuant to which the Company granted Janssen an exclusive worldwide license to develop, manufacture, and commercialize plamotamab, the Company's CD20 x CD3 development candidate, and pursuant to which Xencor and Janssen will conduct research and development activities to discover novel CD28 bispecific antibodies. The parties will conduct joint research activities for up to a two-year period to discover XmAb bispecific antibodies against CD28 and undisclosed B cell tumor-targets with Janssen receiving exclusive worldwide rights, subject to certain Xencor opt-in rights, to develop, manufacture and commercialize pharmaceutical products that contain one or more of such discovered antibodies (CD28 Licensed Antibodies). The Agreement became effective on November 5, 2021.

Pursuant to the Second Janssen Agreement, the Company received an upfront payment of $100.0 million and is eligible to receive up to $1,187.5 million in milestones which include $289.4 million in development milestones, $378.1 million in regulatory milestones and $520.0 million in sales milestones. Under the terms of the Stock Purchase Agreement, Johnson & Johnson Innovation, JJDC, Inc. (JJDC), agreed to purchase $25.0 million of newly issued unregistered shares of the Company's common stock, priced at a 30-day volume-weighted average price of $33.4197 per share as of October 1, 2021. The Company issued JJDC 748,062 shares of its common stock which had a fair market value of $28.9 million when the shares were transferred.

The Company will collaborate with Janssen on further clinical development of plamotamab with Janssen and share development costs with Janssen paying 80% and the Company paying 20% of certain development costs.

The Company is generally responsible for conducting research activities under the Second Janssen Agreement, and Janssen is generally responsible for all development, manufacturing, and commercialization activities for CD28 Licensed Antibodies that are advanced.

Under the Second Janssen Agreement, the Company granted Janssen an exclusive worldwide right to its plamotamab program and the Company will conduct research activities and apply its CD28 bispecific Fc technology to antibodies targeting B-cells. Upon completion of the research activities Janssen will have options to advance up to four identified candidates for development and commercialization. The activities will be conducted under a research plan agreed to by both parties. Janssen will assume full responsibility for development and commercialization of the CD28 bispecific antibody candidate. If commercialized, the Company is eligible to receive royalties on net sales that range from the high-single to low-double digit percentages.

The Company evaluated the Second Janssen Agreement under the provisions of ASC 606. We have determined that Janssen is a customer for purposes of the delivery of specific performance obligations under the Second Janssen Agreement and applied the provisions of ASC 606 to the transaction.

The Company identified the following performance obligations under the Second Janssen Agreement:

(i) the license to the plamotamab program, and

(ii) research services during a two-year period to create up to four CD28 bispecific candidates targeting B-cell antigens.

The Company determined that the license and the research services are separate performance obligations because they are capable of being distinct and are distinct in the context of the Second Janssen Agreement. The license to plamotamab has standalone functionality as Janssen has exclusive worldwide rights to the program, including the right to sublicense to third parties. Janssen has significant experience and capabilities in developing and commercializing drug candidates similar to plamotamab, and Janssen is capable of performing these activities without the Company's involvement. Upon the transfer of the license of plamotamab and the related data and materials, Janssen could develop and

commercialize plamotamab without further assistance from the Company. The Company determined that the research services for potential CD28 candidates was a separate standalone performance obligation. The Second Janssen Agreement provides an outline of an integrated research plan for the programs to be conducted by the two companies, and the research activities are separate and distinct from the license to plamotamab.

The Company determined the standalone selling price of the license to be $58.5 million using the adjusted market assessment approach considering similar collaboration and license agreements and transactions. The standalone selling price for the research services to be performed during the research term was determined to be $37.6 million using the market approach which was derived from the Company's experience and information from providing similar research services.

The Company determined that the transaction price of the Second Janssen Agreement at inception was $96.1 million consisting of the $100.0 million upfront payment reduced by the $3.9 million discount on the proceeds received from the sale of Company common stock to Janssen. The potential milestones are not included in the transaction price as these are contingent on future events and the Company would not recognize these in revenue until it is not probable that these would not result in significant reversal of revenue amounts in future periods. The Company will re-assess the transaction price at each reporting period and when event outcomes are resolved or changes in circumstances occur.

The Company allocated the transaction price to each of the separate performance obligations using the relative standalone selling price with $58.5 million allocated to the license to the plamotamab program and $37.6 million allocated to the research services.

The Company recognized the $58.5 million allocated to the license when it satisfied its performance obligation and transferred the license to Janssen in November 2021. The license was transferred upon the effective date of the Second Janssen Agreement and when the Company subsequently transferred certain data related to the program to Janssen. The $37.6 million allocated to the research services is being recognized over a period of time through the end of the research term that services are rendered as we determine that the input method is the appropriate approach to recognize income for such services. A total of $7.0 million and $0.3 million of revenue related to the research services was recognized in each of the years ended December 31, 2022 and December 31, 2021, respectively.

The Company recognized $7.0 million and $113.8 million of revenue related to the two Janssen agreements for the years ended December 31, 2022 and 2021, respectively. No revenue was recognized under this arrangement for the year ended December 31, 2020. There is $30.3 million in deferred revenue as of December 31, 2022 related to our obligation to complete research activities and deliver CD28 bispecific antibodies under the Second Janssen 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 and in 2020. The agreement provides MorphoSys with an exclusive worldwide license to the Company's patents and know-how to research, develop, and commercialize the Company's XmAb5574 product candidate (subsequently renamed MOR208 and tafasitamab) with the right to sublicense under certain conditions. If certain developmental, regulatory, and sales milestones are achieved, the Company is eligible to receive future milestone payments and royalties.

The Company recognized a total of $7.8 million of royalty revenue on net sales of Monjuvi for the year ended December 31, 2022. The Company recognized a total of $12.5 million of milestone revenue related to clinical studies and royalties of $5.9 million on net sales of Monjuvi for the year ended December 31, 2021. There was $39.0 million of revenue recognized under this arrangement for the year ended December 31, 2020. As of December 31, 2022, the Company has no deferred revenue related to this agreement and has recorded a receivable of $2.2 million for royalties due.

Novartis Institute for Biomedical Research, Inc.

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 (vibecotamab) 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.

In August 2021, Novartis notified the Company it was terminating its rights with respect to the vibecotamab program, which will be effective in February 2022. Under the Novartis Agreement, Novartis is responsible for its share of vibecotamab development costs through August 2022.

We completed delivery of two Global Discovery Programs under the Agreement.

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 two discovery programs to Novartis and recognized $40.1 million of revenue in the period that each program was delivered. The Company's obligations to provide research services under the Agreement for additional Global Discovery Programs expired in 2021, and we recognized $40.1 million of research revenue from deferred revenue.

In June 2021, Novartis selected an Fc candidate and received a non-exclusive license to the Company's Fc technology. Novartis will assume full responsibility for development and commercialization of the licensed Fc product candidate. The Company is eligible to receive development, clinical, and sales milestones and royalties on net sales of approved products for the licensed Fc candidate. During the year ended December 31, 2021, Novartis advanced the Fc candidate into development and initiated clinical studies and the Company recognized $3.0 million of revenue related to the milestones.

During the year ended December 31, 2021, the Company recognized $43.1 million of revenue. No revenue was recognized during the years ended December 31, 2022 and 2020. There was a $0.03 million receivable and no deferred revenue as of December 31, 2022 related to the arrangement.

Omeros Corporation

In August 2020, the Company entered into a Technology License Agreement (the Omeros Agreement) with Omeros Corporation (Omeros), in which the Company provided Omeros a non-exclusive license to its Xtend Fc technology, an exclusive license to apply its Xtend technology to an initial identified antibody and options to apply its Xtend technology to three additional antibodies. Omeros is responsible for all development and commercialization activities for all target candidates. The Company received an upfront payment and is eligible to receive development, regulatory and, sales milestones for each product incorporating the antibodies selected. In addition, the Company is eligible to receive royalties in the mid-single digit percentage range on net sales of approved products.

There was no revenue recognized for the year ended December 31, 2022 and 2021. The Company recognized $5.0 million of revenue related to the Omeros Agreement for the year ended December 31, 2020. There is no deferred revenue as of December 31, 2022 related to this agreement.

Vir Biotechnology, Inc.

In 2019, the Company entered into a Patent License Agreement (the Vir Agreement) with Vir Biotechnology (Vir) pursuant to which the Company provided a non-exclusive license to its Xtend technology for up to two targets. Under the terms of the Vir Agreement, the Company received a total of $2.0 million in upfront and milestone payments and is eligible to receive additional milestones of $154.0 million which include $4.0 million of development milestones, $30.0 million of regulatory milestones and $120.0 million of sales milestones. In addition, the Company is eligible to receive royalties on the net sales of approved products in the low-single digits.

Vir initiated a Phase 1 study with a licensed antibody in 2019, and in the second quarter of 2020, it initiated a Phase 1 study with a second licensed antibody.

In March 2020, the Company entered into a second Patent License Agreement (the Second Vir Agreement) with Vir pursuant to which the Company provided a non-exclusive license to its Xtend technology to extend the half-life of novel antibodies Vir is investigating as potential treatments for patients with COVID-19. Under the terms of the Second Vir Agreement, Vir is responsible for all research, development, regulatory and commercial activities for the antibody, and the Company is eligible to receive royalties on the net sales of approved products in the mid-single digit percentage range. Vir and its marketing partner, GSK, began recording sales for sotrovimab beginning in June 2021. In 2022 and 2021, we recognized royalty revenue of $114.9 million and $52.2 million, respectively related to this agreement.

In February 2021, the Company entered into the Vir Amendment No. 1 to the Vir Agreement and the Vir Amendment No. 1 to the Second Vir Agreement (collectively, the Vir Amendments), in each case, pursuant to which the Company provided a non-exclusive license to additional Fc technology for the targets previously identified in the Vir Agreement and the Second Vir Agreement, respectively. If Vir incorporates additional Fc technologies in the identified targets, the Company is eligible to receive additional royalties on net sales of approved products from low to mid-single digit range.

The Company determined that the Second Vir Agreement and the Vir Amendments were modifications of the original Vir Agreement, and that the transfer of the license occurred at inception of the Vir Agreement. The total consideration under the arrangement did not change with the Second Vir Agreement or the Amendments as the Company will potentially receive additional royalty revenue which is variable consideration and is not included in the transaction price.

In June 2021, Vir announced its plan to initiate a Phase 2 study for VIR-3434 and subsequently completed dosing of the first patient in such study in July 2021. The Company recorded a $0.5 million contract asset in connection with this milestone event, and the payment was received in August 2021.

The Company recognized $115.4 million, $52.7 million, and $0.3 million of revenues related to the agreement for the years ended December 31, 2022, 2021, and 2020, respectively. There is no deferred revenue as of December 31, 2022 related to this agreement. As of December 31, 2022, the Company has recorded a receivable of $4.8 million for royalties due related to this agreement.

Viridian Therapeutics, Inc.

In December 2020, we entered into a Technology License Agreement (Viridian Agreement) with Viridian Therapeutics, Inc. (Viridian), in which we provided Viridian a non-exclusive license to our Xtend Fc technology and an exclusive license to apply our Xtend Fc technology to antibodies targeting IGF-1R. Viridian is responsible for all development and commercialization activities. We received an upfront payment of shares of Viridian common stock valued at $6.0 million and are eligible to receive development, regulatory and sales milestones. We are also eligible to receive royalties in the mid-single digit percentage range on net sales of approved products.

The Company allocated $6.0 million of the transaction price to the licenses to the Xtend Fc technology and recognized income for the licenses at inception of the arrangement when Viridian began benefiting access to it.

In December 2021, we entered into a second Technology License Agreement (Second Viridian Agreement) with Viridian for a non-exclusive license to certain antibody libraries developed by us. Under the Second Viridian Agreement, Viridian received a one-year research license to review the antibodies and the right to select up to three antibodies for further development. Viridian is responsible for all further development of the selected antibodies. We received an upfront payment shares of Viridian common stock valued at $7.5 million and are eligible to receive up to $24.8 million in milestones, which include $1.8 million in development milestones, $3.0 million in regulatory milestones and $20.0 million in sales milestones in addition to royalties on net sales of approved products under the Second Viridian Agreement.

The Company evaluated the Second Viridian Agreement under the revenue recognition standard ASC 606 and identified the following performance obligation that it deemed to be distinct at the inception of the contract:

- non-exclusive license to certain antibody libraries created by the Company

The Company considered the license as functional intellectual property as Viridian has the right to use the materials and license at the time that the Company transfers such rights.

The total transaction price is $7.5 million, which includes the upfront payment of Viridian common stock at their fair value at the date of the Agreement. The milestone payments are variable consideration to which the Company applied the "most likely amount" method and concluded at inception of the Viridian Agreement it is unlikely that the Company will collect such payments. The milestone payments were not included in the transaction price, and the Company will review this conclusion and update at each reporting period.

The Company allocated $7.5 million of the transaction price to the licenses to the antibody libraries and recognized income for the licenses at inception of the arrangement when Viridian received the materials and began accessing them.

No revenue related to the Viridian Agreement was recognized for the year ended December 31, 2022. The Company recognized $7.5 million and $6.0 million of revenue related to the Viridian Agreement for the years ended December 31, 2021 and 2020, respectively. There is no deferred revenue as of December 31, 2022 related to this agreement.

Zenas BioPharma Limited

In November 2020, the Company entered into a License Agreement (Zenas Agreement) with Zenas BioPharma Limited (Zenas) pursuant to which the Company granted Zenas exclusive worldwide rights to develop and commercialize to three preclinical-stage Fc-engineered drug candidates: XmAb6755, Xpro9523, and XmAb10171. Under the Zenas Agreement, Zenas will be responsible for all further development and commercialization activities for XmAb6755, Xpro9523, and XmAb10171. The Company received a 15% equity interest in Zenas with a fair value of $16.1 million, and the Company is eligible to receive royalties on net sales of approved products in the mid-single digit to mid-teen percentage range.

Under the Zenas Agreement, Zenas received exclusive worldwide rights to manufacture, develop and commercialize XmAb6755, Xpro9523, and XmAb10171. Zenas also received the rights to all data, information, and research materials related to the three preclinical stage programs.

The Company evaluated the Zenas Agreement under the revenue recognition standard ASC 606 and identified the following performance obligations that it deemed to be distinct at the inception of the contract:

- exclusive license to the XmAb6755, Xpro9523, and XmAb10171 drug candidates; and
- rights to material, data, and information that the Company had accumulated in connection with conducting preclinical activities for each of the three programs and intellectual property filings and information.

The Company considered the licenses as functional intellectual property as Zenas has the right to use each of XmAb6755, Xpro9523 and XmAb10171 at the time that the Company transfers such rights. The rights to the preclinical programs' data are not considered to be separate from the license to programs as Zenas cannot benefit from the license without the supporting data and documentation.

The total transaction price is $16.1 million, which includes the upfront payment of 15% of the equity of Zenas at its fair value at the date of the Zenas Agreement. The Zenas Agreement includes variable consideration for potential future royalties that were contingent on future success factors for the licensed programs. The Company used the "most likely amount" method to determine the variable consideration. None of the 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 Zenas Agreement and allocated it to the performance obligation, delivery of the XmAb6755, Xpro9523, and XmAb10171 licenses.

The Company completed delivery of its performance obligations in December 2020. The licenses to XmAb6755, Xpro9523, and XmAb10171 were transferred to Zenas at inception of the Zenas Agreement, and the related research data and documentation was transferred to Zenas in December 2020.

In November 2021, the Company entered into a second License Agreement (Second Zenas Agreement) with Zenas, in which we licensed the exclusive worldwide rights to develop and commercialize the Company's obexelimab (XmAb5871) drug candidate. Under the Second Zenas Agreement, Zenas will be responsible for all further development

and commercialization activities for obexelimab. The Company received a warrant to acquire additional equity in Zenas with a fair value of $14.9 million, and the Company is eligible to receive royalties on net sales of approved products in the mid-single digit to mid-teen percentage range. We are also eligible to receive up to $470.0 million based on the achievement of certain clinical development, regulatory and commercialization milestones and are eligible to receive tiered, mid-single digit to mid-teen percent royalties upon commercialization of obexelimab, dependent on geography. Zenas will have sole responsibility for advancing the research, development, regulatory and commercial activities of obexelimab worldwide.

The Company evaluated the Second Zenas Agreement under the revenue recognition standard ASC 606 and identified the following performance obligations that it deemed to be distinct at the inception of the contract:

- exclusive license to the obexelimab drug candidate; and
- rights to material, data, and information that the Company had accumulated in connection with conducting clinical activities for the program and intellectual property filings and information.

The Company considered the license as functional intellectual property as Zenas has the right to use obexelimab at the time that the Company transfers such rights. The rights to the obexelimab program data are not considered to be separate from the license to program as Zenas cannot benefit from the license without the supporting data and documentation.

The total transaction price is $14.9 million, which includes the upfront payment of a warrant to acquire up to 15% of the equity of Zenas in connection with a future financing at its fair value at the date of the Second Zenas Agreement. The Second Zenas Agreement includes variable consideration for potential future royalties that were contingent on future success factors for the licensed programs. The Company used the “most likely amount” method to determine the variable consideration. None of the 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 Second Zenas Agreement and allocated it to the performance obligation, delivery of the obexelimab license.

The Company completed delivery of its performance obligations in December 2021. The licenses to obexelimab were transferred to Zenas at inception of the Second Zenas Agreement, and the related research data and documentation was transferred to Zenas in December 2021.

In 2021, the Company purchased a convertible promissory note from Zenas which would automatically convert to equity in a financing transaction.

In November 2022, Zenas completed a financing transaction, pursuant to which a warrant to purchase Zenas equity that was held by the Company was automatically exercised, and a convertible note issued to the Company by Zenas was automatically converted with both converting into shares of Zenas’ preferred stock. After the financing transaction, we continued to record our investment in Zenas at fair value adjusted at each reporting period for impairment or other evidence of change in value. The equity shares in Zenas received from exercise of the warrant and conversion of the notes have an estimated fair value of $34.5 million and $7.7 million, respectively. As a result of the Zenas financing transaction, the estimated fair value of our investment in equity securities increased by $17.9 million. This amount has been recorded in other income.

No revenue was recognized for the year ended December 31, 2022. The Company recognized $14.9 million and $16.1 million of revenue related to the two Zenas Agreements for the years ended December 31, 2021 and 2020, respectively. There is no deferred revenue as of December 31, 2022 related to this agreement.

Revenue Earned

The $164.6 million, $275.1 million, and $122.7 million of revenue recorded for the years ended December 31, 2022, 2021, and 2020, respectively, were earned principally from the following licensees (in millions):

	Year Ended December 31,		
	2022	2021	2020
Aimmune	$ —	$ —	$ 9.6
Alexion	29.4	22.2	26.2
Astellas	5.0	—	3.5
Genentech	—	2.5	3.5
Gilead	—	—	13.5
Janssen	7.0	113.8	—
MorphoSys	7.8	18.4	39.0
Novartis	—	43.1	—
Omeros	—	—	5.0
Vir	115.4	52.7	0.3
Viridian	—	7.5	6.0
Zenas	—	14.9	16.1
Total	$ 164.6	$ 275.1	$ 122.7

The table below summarizes the disaggregation of revenue recorded for the years ended December 31, 2022, 2021, and 2020 (in millions):

	Year Ended December 31,		
	2022	2021	2020
Research collaboration	$ 7.0	$ 93.0	$ 4.5
Milestone	5.5	21.0	50.2
Licensing	—	80.8	50.2
Royalties	152.1	80.3	17.8
Total	$ 164.6	$ 275.1	$ 122.7

Remaining Performance Obligations and Deferred Revenue

The Company's remaining performance obligation as of December 31, 2022 is conducting research activities pursuant to research plans under the Second Janssen Agreement. As of December 31, 2022 and 2021, we have deferred revenue of $30.3 million and $37.3 million, respectively. All of the deferred revenue was classified as short term as of December 31, 2022 and 2021, respectively, as the Company's obligations to perform research services are due on demand when requested by Janssen under the Janssen Agreement.

11. 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. Effective March 31, 2020, the Company contributes 100% of the first 1% of participating employees' contribution and 50% of the next 6% of participating employees' contribution, for a maximum of 4.0% of 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 years ended December 31, 2022, 2021, and 2020 were $1.4 million, $1.1 million, and $0.8 million, respectively.

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, 2022. 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, 2022 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, 2022. 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, 2022, 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, 2022, 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, 2022 and has issued an audit report on the effectiveness of the Company’s internal control over financial reporting as of December 31, 2022, which is included in Item 8 of this Annual Report.

Item 9B. Other Information

On February 23, 2023, the Board of Directors of the Company amended and restated the Company's Amended and Restated Bylaws (as so further amended and restated, the "Bylaws") to, among other things, update certain procedural requirements relating to director nominations by shareholders in light of the adoption and effectiveness of Rule 14a-19 promulgated under the Securities Exchange Act of 1934 ("Rule 14a-19"), which generally requires the use of universal proxy cards in director contests. The Bylaws also includes certain immaterial conforming, technical and non-substantive changes. The Bylaws, and the changes implemented thereby, were effective immediately upon adoption by the Board.

As amended and restated, Article III of the Bylaws provides that a shareholder's written notice to the Secretary of the corporation in respect of a nomination of one or more persons for election to the Board of Directors must, among other things, (i) comply with the requirements of Rule 14a-19 and (ii) include all information required by Rule 14a-19. The foregoing summary of the amendments effectuated by the amendment and restatement of the Bylaws does not purport to be complete and is qualified in its entirety by reference to the full text of the Bylaws, a copy of which is included as Exhibit 3.2 to this report and incorporated by reference herein.

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 *https://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 2023 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, 2022 and is incorporated herein by reference.

Audit Committee

The information required by this item will be set forth in the Proxy Statement and is 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:

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	Second Amended and Restated Bylaws of the Company
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).
4.3	Description of the Common Stock of the Company (incorporated by reference to Exhibit 4.3 to the Company's Form 10-K filed with the SEC on February 25, 2020).
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*	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).
10.6*	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).
10.7*	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).

10.8*	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).
10.9†	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).
10.10†	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).
10.11	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).
10.12	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).
10.13†	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).
10.14*	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).
10.15*	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).
10.16*	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).
10.17†	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).
10.18†	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).
10.19	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).
10.20	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).
10.21†	Collaboration and License Agreement, dated February 4, 2019, by and between the Company and Genentech, Inc. and F. Hoffman-La Roche LTD (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed with the SEC on May 9, 2019).

10.22*	Employment Agreement dated August 5, 2019 by and between the Company and Celia Eckert (incorporated by reference to Exhibit 10.33 to the Company's Form 10-K filed with the SEC on February 25, 2020).
10.23*	Employment Agreement dated November 13, 2019 by and between the Company and Dr. Allen Yang, M.D., Ph.D. (incorporated by reference to Exhibit 10.34 to the Company's Form 10-K filed with the SEC on February 25, 2020).
10.24	Third Amendment to Lease, dated April 30, 2020, by and between the Company and 111 Lemon Investors LLC (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed with the SEC on August 5, 2020).
10.25	Fourth Amendment to Lease, dated September 30, 2020, by and between the Company and 111 Lemon Investors LLC (incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed with the SEC on November 6, 2020).
10.26	First Amendment to the Research and License Agreement, dated November 22, 2019, by and between the Company and Amgen Inc. (incorporated by reference to Exhibit 10.29 to the Company's Form 10-K filed with the SEC on February 23, 2021).
10.27	Second Amendment to the License Agreement, dated January 8, 2020, by and between the Company and MorphoSys AG (incorporated by reference to Exhibit 10.31 to the Company's Form 10-K filed with the SEC on February 23, 2021).
10.28	Third Amendment to the License Agreement, dated July 13, 2020, by and between the Company and MorphoSys AG (incorporated by reference to Exhibit 10.32 to the Company's Form 10-K filed with the SEC on February 23, 2021).
10.29	Fifth Amendment to Lease, dated October 31, 2020, by and between the Company and 111 Lemon Investors LLC (incorporated by reference to Exhibit 10.33 to the Company's Form 10-K filed with the SEC on February 23, 2021).
10.30	Collaboration and License Agreement, dated December 4, 2020, by and between the Company and Janssen Biotech, Inc. (incorporated by reference to Exhibit 10.34 to the Company's Form 10-K filed with the SEC on February 23, 2021).
10.31	First Amendment to the Collaboration and License Agreement, dated March 10, 2021, by and between the Company and Genentech, Inc. and F. Hoffmann-La Roche LTD (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed with the SEC on May 5, 2021).
10.32*	Form of Restricted Stock Unit Agreement (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, filed with the SEC on March 10, 2021).
10.33	Second Amendment to the Collaboration and License Agreement, dated June 30, 2021, by and between the Company and Genentech, Inc., and F. Hoffmann-La Roche LTD (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed with the SEC on August 4, 2021).
10.34	Agreement of Lease, dated April 30, 2021, by and between the Company and Angelo Gordon Real Estate, Inc. (incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed with the SEC on August 4, 2021).
10.35	First Amendment to Lease, dated July 13, 2021, by and between the Company and Angelo Gordon Real Estate, Inc. (incorporated by reference to Exhibit 10.3 to the Company's Form 10-Q filed with the SEC on August 4, 2021).
10.36†	Collaboration and License Agreement, dated October 1, 2021, by and between the Company and Janssen Biotech, Inc.

10.37	First Amendment to Office Lease, dated May 19, 2022, by and between the Company and PRII High Bluffs LLC and Collins Corporate Center Partners, LLC (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed with the SEC on August 3, 2022).
10.38	Second Amendment to Lease, dated August 2, 2022, by and between the Company and AG-LC 465 North Halstead Owner, L.P. (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed with the SEC on November 7, 2022).
10.39	Sixth Amendment to Lease, dated November 14, 2022, by and between the Company and 111 Lemon Investors LLC.
10.40	Xencor, Inc. Amended and Restated Non-Employee Director Compensation Policy.
10.41	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).
10.42†	First Amendment to Option and License Agreement dated June14, 2019 by and between the Company and Alexion Pharma Holding (as successor to Alexion Pharmaceuticals, Inc.)
10.43†	Second Amendment to Option and License Agreement dated November 28, 2022 by and between the Company and Alexion Pharma International Operations Limited (as successor to Alexion Pharmaceuticals, Inc.).
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 – The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the inline XBRL 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.

104	104 Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

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† 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 24, 2023

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 24, 2023
/s/ JOHN J. KUCH John J. Kuch	Sr. Vice President & Chief Financial Officer (Principal Financial and Accounting Officer)	February 24, 2023
/s/ A. BRUCE MONTGOMERY, M.D. A. Bruce Montgomery, M.D.	Director	February 24, 2023
/s/ KURT GUSTAFSON Kurt Gustafson	Director	February 24, 2023
/s/ KEVIN C. GORMAN, PH.D. Kevin C. Gorman, Ph.D.	Director	February 24, 2023
/s/ RICHARD RANIERI Richard Ranieri	Director	February 24, 2023
/s/ ELLEN G. FEIGAL, M.D. Ellen G. Feigal, M.D.	Director	February 24, 2023
/s/ DAGMAR ROSA-BJORKESON Dagmar Rosa-Bjorkeson	Director	February 24, 2023
/s/ NANCY VALENTE Nancy Valente	Director	February 24, 2023