

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

Form 10-K

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

For the fiscal year ended December 31, 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: 000-29089

Agenus Inc.

(exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

06-1562417
(I.R.S. Employer
Identification No.)

3 Forbes Road, Lexington, Massachusetts 02421
(Address of principal executive offices, including zip code)

Registrant's telephone number, including area code:

(781) 674-4400

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

Common Stock, \$.01 Par Value
(Title of each class)

AGEN
(Trading Symbol)

The Nasdaq Capital Market
(Name of each exchange on which registered)

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

None

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

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

Indicate by check mark whether the 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	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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 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).

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

The aggregate market value of Common Stock held by non-affiliates of the registrant as of June 30, 2022 (the last trading day of the registrant's second fiscal quarter of 2022) was: \$544.1 million. There were 332,513,275 shares of the registrant's Common Stock outstanding as of March 15, 2023.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Definitive Proxy Statement relating to the 2023 Annual Meeting of Stockholders, which the registrant intends to file with the Securities and Exchange Commission pursuant to Regulation 14A within 120 days after the end of the registrant's fiscal year ended December 31, 2022, are incorporated by reference into Part III of this Report.

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Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K and other written and oral statements the Company makes from time to time contain forward-looking statements. You can identify these forward-looking statements by the fact they use words such as “could,” “expect,” “anticipate,” “estimate,” “target,” “may,” “project,” “guidance,” “intend,” “plan,” “believe,” “will,” “potential,” “opportunity,” “future” and other words and terms of similar meaning. Forward-looking statements include discussion of future operating or financial performance. You also can identify forward-looking statements by the fact that they do not relate strictly to historical or current facts. Forward-looking statements involve risks and uncertainties that could delay, divert or change any of them, and could cause actual outcomes to differ materially. These statements relate to, among other things, our business strategy, our research and development, our product development efforts, our ability to commercialize our product candidates, the activities of our licensees, our prospects for initiating partnerships or collaborations, the timing of the introduction of products, the effect of new accounting pronouncements, our future operating results and our potential profitability, availability of additional capital as well as our plans, objectives, expectations, and intentions.

Although we believe we have been prudent in our plans and assumptions, no assurance can be given that any goal or plan set forth in forward-looking statements can be achieved, and readers are cautioned not to place undue reliance on such statements, which speak only as of the date of this report. We undertake no obligation to release publicly any revisions to forward-looking statements as a result of new information, future events or otherwise.

The risks identified in this Annual Report on Form 10-K, including, without limitation, the risks set forth in Part I-Item 1A. “Risk Factors,” could cause actual results to differ materially from forward-looking statements contained in this Annual Report on Form 10-K. We encourage you to read those descriptions carefully. Such statements should be evaluated in light of all the information contained in this document.

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Item 1. Business**Our Business**

We are a clinical-stage company with a pipeline of therapies designed to activate the body's immune system to fight cancer and infections, including immune-modulatory antibodies, adoptive cell therapies (through our subsidiary MiNK Therapeutics, Inc. ("MiNK")) and vaccine adjuvants (through our subsidiary SaponiQx, Inc. ("SaponiQx")). This robust product pipeline is supported by our in-house capabilities, including current good manufacturing practice ("cGMP") manufacturing and a clinical operations platform. Our primary focus is immuno-oncology ("I-O"), and our business is designed to drive success through speed, innovation and effective combination therapies. We believe that a deep understanding of each patient's cancer and the potential to deliver combination therapies will drive substantial expansion of the patient population benefiting from current I-O therapies. In addition to a diverse pipeline, we have assembled fully integrated end-to-end capabilities including novel target discovery, antibody generation, cell line development and cGMP manufacturing. We believe that these fully integrated capabilities enable us to produce novel candidates on timelines that are shorter than the industry standard. Leveraging our science and capabilities, we have forged important partnerships to advance our innovation.

We believe the next generation of cancer treatment will build on clinically validated antibodies targeting CTLA-4 and PD-1 combined with novel immunomodulatory agents designed to address underlying tumor escape mechanisms. Our most advanced antibody candidates are botensilimab (a proprietary next-generation Fc-engineered CTLA-4 antibody, also known as AGEN1811) and balstilimab (a PD-1 antibody).

Botensilimab is designed to improve the magnitude of responses to first-generation CTLA-4 antibodies, to expand the population of patients currently benefiting from CTLA-4 therapy, and to reduce or eliminate side effects that lead to treatment discontinuation. Botensilimab is currently in three Phase 2 studies as a monotherapy (melanoma), in combination with chemotherapy (pancreatic cancer), and in combination with balstilimab (microsatellite stable colorectal cancer ("MSS CRC")). We recently reported updated data from the Phase 1b study at the American Society of Clinical Oncology – Gastrointestinal Cancers Symposium ("ASCO GI") in January 2023, which demonstrated an overall response rate ("ORR") of 23% and disease control rate ("DCR") of 76% for the botensilimab/balstilimab combination in an expanded cohort of 70 heavily pre-treated patients with MSS CRC, which suggests a superior benefit compared to what has been reported for standard of care ("SOC") and other investigational therapies. At the Society for Immunotherapy Cancer ("SITC") meeting in November 2022, we reported response rates of 26% for platinum-refractory ovarian cancer, 42% for advanced sarcoma, and 60% for anti-PD(L)-1 relapsed/refractory non-small cell lung cancer ("NSCLC"), all exceeding the response rates that have been reported for other PD-(L)1 + CTLA-4 combination regimens in comparable patient populations. In total, botensilimab alone and in combination with balstilimab have demonstrated durable clinical responses across nine cold and treatment-resistant cancers.

Balstilimab and zalifrelimab, our first generation CTLA-4 antibody, have been evaluated in Phase 2 trials as both a monotherapy (balstilimab) and combination therapy (balstilimab/zalifrelimab) for treatment of patients with second-line cervical cancer. Both trials met their clinical endpoints. In the largest single arm Phase 2 trial to date evaluating anti PD-1 therapy in second-line cervical cancer (140 patients), balstilimab monotherapy demonstrated objective responses in both PD-L1-positive and PD-L1-negative patients, 20% and 8%, respectively, compared to pembrolizumab reported responses of 14% and 0% in a trial of 77 patients. In a separate trial, the combination of balstilimab with zalifrelimab demonstrated objective response rates in PD-L1-positive and PD-L1-negative patients of 32.8% and 9.1%, respectively, more than double the benefit reported in pembrolizumab's label.

In addition to our lead programs, Agenus scientists have leveraged our internal discovery and translational platforms and powerful algorithms to develop a pipeline of molecules that are intended to address key aspects of antitumor immunity and tumor resistance mechanisms, by modulating myeloid cell biology, conditioning the tumor microenvironment, and augmenting the activity of immune cells. Some of these novel agents are advancing to the clinic via the Agenus pipeline or via partnering relationships. Given the diversity of our pipeline, we are well positioned to advance differentiated combination therapies with our goal being to enhance response rates and thereby benefit patients who are unresponsive to current immunotherapies.

Additionally, in October 2021, we completed the initial public offering ("IPO") of MiNK, trading on the Nasdaq Global Market under the ticker symbol "INKT". MiNK is a clinical stage biopharmaceutical company focused on developing allogeneic invariant natural killer T ("iNKT") cell therapies to treat cancer and other life-threatening immune diseases. MiNK's most advanced product candidate, agenT-797, is an off-the-shelf, allogeneic, native iNKT cell therapy. MiNK has commenced and enrolled a Phase 1 clinical trial for the treatment of solid tumors as a monotherapy and in combination with commercially approved checkpoint inhibitors (KEYTRUDA® and OPDIVO®). MiNK is also evaluating agenT-797 as a variant-agnostic therapy for patients with viral acute respiratory distress syndrome ("ARDS") and published top-line data from this Phase 1 clinical trial in the fourth quarter of 2021, reporting a 77% survival rate in older, mechanically ventilated patients with COVID-19 respiratory failure.

To succeed in I-O, innovation and speed are paramount. We are a vertically integrated biotechnology company equipped with a suite of technology platforms to advance from novel target identification through manufacturing for clinical trials of antibodies and cell therapies.

Our common stock is currently listed on The Nasdaq Capital Market under the symbol “AGEN.”

Our Vision

We believe that combination therapies and a deep understanding of each patient’s cancer will be key drivers of success in substantially expanding the patient population benefiting from current I-O therapies. In addition, delivering innovation with speed is critical for our future success, as drug development timelines in oncology shorten while product obsolescence rates climb. We believe our fully integrated, end-to-end capabilities from our artificial intelligence-powered VISION platform for novel target discovery, antibody generation, and cell line development to our cGMP manufacturing and clinical development and operations capabilities, together with a comprehensive and complementary portfolio will uniquely position us to produce novel therapies on accelerated timelines. We believe that a balanced pipeline of product candidates should focus on both validated targets as well as novel targets designed to address tumor escape mechanisms. In this context, CTLA-4 and PD-1 antagonists are recognized as the first clinically validated immunotherapy combination. These therapeutic targets, in combination with innovative immunomodulatory antibodies, cell therapies, or immune educating vaccines, are reasonably anticipated to be focal points of the next generation of I-O combination therapies. Therefore, we plan to develop, register and launch proprietary antibodies targeting PD-1 and CTLA-4 aggressively through the clinic and expand with novel combination therapies designed to improve clinical response and the durability of response of existing therapies.

Our Strategy

Our strategy is to bring innovative combination therapies for cancer patients to substantially expand the patient population benefiting from current I-O therapies. Our diverse pipeline of antibody-based therapeutics, cell therapies, and vaccine adjuvants enable us to pursue therapeutically relevant approaches focused on safe and effective therapeutic agent combinations. In line with this approach, we are pursuing clinical trials designed to strengthen the efficacy and safety signals demonstrated to date and that may support a potential filing for full approval and/or accelerated approval based on the magnitude of benefit demonstrated.

Our strategies for our more novel, earlier stage development programs are to leverage learnings from prior programs to address limitations of first-generation molecules and build a portfolio that addresses resistance mechanisms. Our clinical portfolio also includes a number of differentiated approaches to novel I-O targets, including TIGIT, LAG-3, ILT4, ILT2, and CD137. For example, our CD137 agonist, AGEN2373, was designed to be conditionally active in the tumor microenvironment and has demonstrated clinical activity without evidence of liver toxicity that have stalled other clinical-stage CD137 therapies. These agents are being pursued in PD-1 combinations, as well as unique combinations driven by biology and clinical experience, such as our combination study evaluating botensilimab with CD137 (AGEN2373) antibodies in PD-1 relapsed or refractory melanoma.

We are advancing our portfolio through a combination of independent development and strategic partnerships with industry leaders.

Our Assets

Our I-O assets include antibody-based therapeutics, monospecific and bispecific antibodies, cell therapy (through MiNK), vaccine adjuvants (through SaponiQx). Our clinical-stage portfolio includes the following assets:

- Botensilimab (AGEN1181) – a next-generation CTLA-4 monospecific antibody currently in three Phase 2 studies in MSS CRC, pancreatic cancer and melanoma as a monotherapy and in combination with balstilimab or chemotherapy;
- Balstilimab (AGEN2034) – a PD-1 monospecific antibody currently being evaluated in combinations with botensilimab and zalifrelimab, as well as in a clinical collaboration with Rottapharm S.p.A. in combination with CR6086;
- Zalifrelimab (AGEN1884) – a first-generation CTLA-4 monospecific antibody currently being evaluated in combination with balstilimab, as well as in a clinical collaboration with Nelum in combination with NLM-001;
- AGEN2373 – a CD137 monospecific antibody currently in a Phase 1b clinical trial being advanced by Agenus as monotherapy and in combination with botensilimab, and which Gilead Sciences, Inc. (“Gilead”) has an option to license exclusively;
- AGEN1423 – a tumor microenvironment conditioning CD73/TGFβ TRAP bifunctional antibody that recently completed a Phase 1 clinical trial sponsored by Gilead;

- AGEN1571 – an ILT2 monospecific antibody currently in a Phase 1 clinical trial that we are advancing as monotherapy and in combination with botensilimab and balstilimab in solid tumors;
- MK-4830 – a monospecific antibody targeting ILT4 exclusively licensed to Merck Sharpe & Dohme (“Merck”) and being evaluated by Merck in Phase 2 clinical trials in late stage cancers including esophageal cancer, melanoma, MSI-H colorectal cancer, NSCLC, small cell lung cancer, ovarian cancer, and renal cell carcinoma;
- INCAGN1876 – a GITR monospecific antibody exclusively licensed to Incyte Corporation (“Incyte”) and being advanced by Incyte in a Phase 2 clinical trial evaluating INCAGN1876 in combination with retifanlimab in squamous cell carcinoma of the head and neck;
- INCAGN2390 – a TIM-3 monospecific antibody exclusively licensed to Incyte and being advanced by Incyte in Phase 2 clinical trials evaluating INCAGN2385 and INCAGN2390 in combination with retifanlimab in melanoma, squamous cell carcinoma of the head and neck, and endometrial cancer;
- INCAGN2385 – a LAG-3 monospecific antibody exclusively licensed to Incyte and being advanced by Incyte in Phase 2 clinical trials evaluating INCAGN2385 and INCAGN2390 in combination with retifanlimab in melanoma, squamous cell carcinoma of the head and neck, and endometrial cancer;
- BMS-986442 (also known as AGEN1777) – a TIGIT bispecific discovered by Agenus and exclusively licensed to Bristol Myers Squibb Company (“BMS”) and being advanced by BMS in a Phase 1/2 clinical trial evaluating BMS-986442 in combination with nivolumab +/- chemotherapy in patients with advanced solid tumors and non-small cell lung cancer;
- UGN-301 – zalifrelimab intravesical solution, prepared as a reverse thermal hydrogel, exclusively licensed to UroGen Pharma (“UroGen”) for the treatment of cancers of the urinary tract via intravesical delivery and being advanced by UroGen in a Phase 1 clinical trial as a monotherapy and in combination with other agents, including UGN-201;
- agent-797 – allogeneic iNKT cells exclusively licensed to MiNK and being advanced by MiNK in Phase 1 studies in solid tumors, multiple myeloma, and viral ARDS; and
- QS-21 STIMULON – adjuvant extracted from the bark of the Quillaja saponaria (soap bark) evergreen tree native and purified using our proprietary process; key component in the adjuvant in several GlaxoSmithKline plc (“GSK”) vaccines, including the most efficacious shingles vaccine, Shingrix®, which has demonstrated >90% efficacy, as well as the first ever malaria vaccine, Mosquirix®, and recent RSV vaccine.

Our proprietary QS-21 STIMULON is considered to be one of the most potent adjuvants known. By way of example, QS-21 STIMULON is a key component in the adjuvant in several GSK vaccines, including GSK’s Shingrix, which reported sales in excess of \$3.5 billion in 2022. Sales in 2019 triggered a \$15.1 million milestone payment to us from Healthcare Royalty Partners III, L.P. and certain of its affiliates (collectively, “HCR”), which we received in 2020. Sales in 2022 triggered a \$25.25 million milestone payment to us from HCR, which we received in 2022. In 2019, the Bill & Melinda Gates Foundation awarded us a grant to develop an alternative, plant cell culture-based manufacturing process to ensure continuous future supplies of QS-21 STIMULON, which we are pursuing through SaponiQx in partnership with Phyton Biotech and Ginkgo Bioworks.

Our Antibody Discovery Platforms and Immunotherapy Programs

Immunotherapies regulate the body’s immune response to cancer, and have achieved positive outcomes in a number of cancers that were considered untreatable only a few years ago. Our pipeline includes several classes of immunotherapies:

1. checkpoint inhibitors, which remove the tumor’s defenses that evade and suppress the immune system;
2. immune activators, which train and activate a patient’s own immune cells for a potent and durable anti-cancer response; and
3. tumor microenvironment (“TME”) conditioning agents, which reduce local immune-suppression and attract immune cells to the cancer site.

We possess end-to-end capabilities in-house – from discovery through to manufacturing – that have enabled us to advance our discoveries at lower costs with efficiency and speed. These product development advantages allow us to manage a large portfolio of discoveries; and have given rise to clinical stage antibody candidates, pre-clinical programs, and partnerships (i.e., with BMS, Gilead, Incyte, Merck, GSK and Betta Pharmaceuticals Co., Ltd. (“Betta”).

Over approximately the past nine months, we and our partners have reported the following clinical data on our immunotherapy programs:

- Updated clinical data from a Phase 1/2 trial of botensilimab as monotherapy and in combination with Agenus' PD-1 antibody balstilimab, which showed robust responses in nine different treatment-resistant cancers. Response data for the botensilimab/balstilimab combination were reported in four specific disease cohorts:
 - o ASCO GI 2023: 2L+ MSS mCRC (70 evaluable patients): ORR of 23% vs. 1-2% (SOC) vs. 1-5% (other PD-1/CTLA-4 therapies)
 - 12-month overall survival of 63% (vs. reported 12-month overall survival of ~25% for SOC); median Overall Survival not yet reached
 - o SITC 2022: 2L+ Ovarian (19 evaluable patients): ORR of 26% vs. ~10% (SOC) vs. 3-10% (other PD-1/CTLA-4 therapies)
 - o CTOS 2022: 2L+ Sarcoma (13 evaluable patients): ORR of 46% vs. ~10% (SOC) vs. 12-16% (other PD-1/CTLA-4 therapies)
 - o SITC 2022: PD-(L)1 Refractory NSCLC (5 evaluable patients): ORR of 60% vs. ~10% (SOC) vs. 6-13% (other PD-1/CTLA-4 therapies)
- Preliminary data from a Phase 1 trial of iNKT cell therapy agenT-797 showing reductions in target and non-target lesions or disease stabilization in patients with solid tumor cancers when administered alone (27%) and in combination with pembrolizumab (KEYTRUDA®) or nivolumab (OPDIVO®) (66%); in multiple myeloma, agenT-797 treatment resulted in durable disease stabilization and modulation of M-spike protein seen in heavily pre-treated r/r multiple myeloma patients (2/8) after ≥6 prior lines of therapy; and
- Data from a Phase 1 trial of iNKT cell therapy demonstrating a pronounced survival rate of 70% in mechanically ventilated elderly COVID-19 patients with moderate to severe viral ARDS after a single dose of agenT-797 compared to ~10% in a comparative case control population; further, agenT-797 treatment was associated with a reduction in secondary infections, including reduced incidence of pneumonia at the highest dose level, a driver of intensive care unit mortality.

With respect to our novel discovery pipeline, our most recently filed investigational new drug application (“IND”) was for AGEN1571, an ILT2 antagonist designed to modulate tumor-associated macrophages, T, NK and NKT cells. At the 2022 American Association for Cancer Research Annual Meeting, we published data showing superior performance of AGEN1571 to its only other known direct clinical-stage competitor, with:

- ~10-fold higher binding affinity to all isoforms of ILT2, enabling superior binding to cells expressing low levels of ILT2;
- Complete blockade of ILT2-ligand interactions for more effective immune activation and anti-tumor therapeutic potential;
- Enhanced activation of T, NK, and NKT cells for improved tumor killing;
- Superior ability to switch myeloid cells to a pro-inflammatory state, which further boosts T and NK cell immunity; and
- Higher potency in boosting endogenous anti-tumor immunity to synergize with the patient’s anti-tumor antibodies or targeted therapies.

We have initiated a Phase 1 study of AGEN1571 as monotherapy, and in combination with botensilimab +/- balstilimab, in solid tumors.

In October 2021, we announced the withdrawal of our Biologics Licensing Application (“BLA”) for balstilimab monotherapy to treat second-line cervical cancer. Our decision came at the recommendation of the U.S. Food and Drug Administration (“FDA”) following the full approval of pembrolizumab, four months earlier than the FDA goal date. The BLA submission for balstilimab received Fast Track and Priority Review designation from the FDA, with a target action date of December 16, 2021. As part of the BLA review process, we successfully completed three FDA inspections, with no cited issues, concerns, or Form-483s. Based on this change to the treatment landscape, we are no longer pursuing US registration for the combination of balstilimab and zalifrelimab in second-line cervical cancer.

Partnered Programs

In May 2021, we entered into a License, Development and Commercialization Agreement with BMS (the “BMS License Agreement”) pursuant to which we granted BMS an exclusive license to develop, manufacture and commercialize our proprietary TIGIT bispecific antibody program AGEN1777. Pursuant to the BMS License Agreement, we received a non-refundable upfront cash payment of \$200.0 million and are eligible to receive up to \$1.36 billion in aggregate development, regulatory and commercial milestone payments plus royalties on worldwide net sales of products containing AGEN1777. In October 2021, we announced that the first patient was dosed in the AGEN1777 Phase 1 clinical trial, triggering the achievement of a \$20.0 million milestone. Under the BMS License Agreement, we retain an option to access the licensed antibodies for use in clinical studies in combination with certain

of our other pipeline assets subject to certain restrictions. Additionally, we have the option, but not the obligation, to co-fund a minority of the global development costs of products containing AGEN1777 or its derivatives, in exchange for increased tiered royalties on U.S. net sales of co-funded products ranging from the mid-teens to low twenties percent and ex-U.S. net sales of co-funded products ranging from the low double digits to mid-teens percent. Finally, Agenus also has the option to co-promote AGEN1777 in the U.S.

In June 2020, we entered into a license and collaboration agreement (the “Beta License Agreement”) with Beta, pursuant to which we granted Beta an exclusive license to develop, manufacture and commercialize balstilimab and zalifrelimab in the People’s Republic of China, Hong Kong, Macau and Taiwan (collectively, “Greater China”). Under the terms of the Beta License Agreement, we received \$15.0 million upfront and are eligible to receive up to \$100.0 million in milestone payments plus royalties on any future sales in Greater China. In connection with this transaction, we also entered into a stock purchase agreement with Beta and a wholly-owned subsidiary of Beta (“Beta HK”), pursuant to which we sold to Beta HK 4,962,779 shares of Agenus common stock for an aggregate purchase price of approximately \$20.0 million in July 2020.

In December 2018, we entered into a series of agreements with Gilead to collaborate on the development and commercialization of up to five novel I-O therapies. Pursuant to the collaboration agreements, we received an upfront cash payment from Gilead of \$120.0 million following the closing in January 2019, and Gilead also purchased 11,111,111 shares of Agenus common stock for an additional \$30.0 million. At closing, Gilead received worldwide exclusive rights to our bispecific antibody, AGEN1423, as well as a right of first negotiation for two undisclosed programs. Gilead also received the exclusive option to license exclusively AGEN1223, a bispecific antibody, and AGEN2373, a monospecific antibody. In November 2020, Gilead elected to return AGEN1423 to us and to voluntarily terminate the license agreement effective as of February 4, 2021. In the third quarter of 2021, we ceased development of AGEN1223 and in October 2021, the AGEN1223 option and license agreement was formally terminated. The AGEN2373 option and license agreement and the stock purchase agreement remain in full force and effect, and we are responsible for developing AGEN2373 up to the option decision point, at which time Gilead may acquire exclusive rights to the program on option exercise. We have the right to opt-in to share Gilead’s development and commercialization costs in the United States in exchange for a profit (loss) share on a 50:50 basis and revised milestone payments. In March 2022, we received a \$5.0 million clinical milestone under the AGEN2373 option agreement. Pursuant to the terms of the AGEN2373 option agreement, we remain eligible to receive a \$50.0 million option exercise fee and, if exercised, up to an additional \$520.0 million in aggregate milestone payments, as well as royalties on any future sales.

In January 2015, we entered into a collaboration with Incyte to discover, develop and commercialize novel immuno-therapeutics using our antibody platforms. The collaboration was initially focused on four immunotherapy programs targeting GITR, OX40, TIM-3 and LAG-3, and in November 2015, we expanded the alliance by adding three novel undisclosed immunotherapy targets. Pursuant to the terms of the original agreement, Incyte paid us \$25.0 million in upfront cash. Targets under the collaboration were designated as either profit-share programs, where the parties shared all costs and profits equally, or royalty-bearing programs, where Incyte funded all costs, and we were eligible to receive milestones and royalties. Under the original collaboration agreement, programs targeting GITR, OX40 and two of the undisclosed targets were designated as profit-share programs, while the other targets were royalty-bearing programs. For each profit-share product, we were eligible to receive up to \$20.0 million in future contingent development milestones. For each royalty-bearing product, we were eligible to receive (i) up to \$155.0 million in future contingent development, regulatory, and commercialization milestones and (ii) tiered royalties on global net sales at rates generally ranging from 6%-12%. Concurrent with the execution of the original collaboration agreement, we and Incyte also entered into a stock purchase agreement pursuant to which Incyte purchased approximately 7.76 million shares of our common stock for an aggregate purchase price of \$35.0 million. In February 2017, we and Incyte amended the terms of the original collaboration agreement to, among other things, convert the GITR and OX40 programs from profit-share to royalty-bearing programs with royalties on global net sales at a flat 15% rate for each. In addition, the profit-share programs relating to two undisclosed targets were removed from the collaboration, with one reverting to Incyte and one to Agenus (the latter being our Fc enhanced TIGIT program), each with royalties on global net sales at a flat 15% rate. The remaining three royalty-bearing programs in the collaboration targeting TIM-3, LAG-3 and one undisclosed target remain unchanged, and there are no more profit-share programs under the collaboration. Pursuant to the amended agreement, we received accelerated milestone payments of \$20.0 million from Incyte related to the clinical development of INCAGN1876 (GITR agonist) and INCAGN1949 (OX40 agonist). Concurrent with the execution of the amendment agreement, we and Incyte entered into a separate stock purchase agreement whereby Incyte purchased an additional 10 million shares of our common stock for an aggregate purchase price of \$60.0 million. In October 2022, Incyte notified us of their intent to terminate the OX40 program, effective October 2023. Upon termination the rights to the OX40 program revert back to us.

In April 2014, we entered into a collaboration and license agreement with Merck to discover and optimize fully-human antibodies against two undisclosed immunotherapy targets. In 2016, Merck selected a lead product candidate against ILT4, MK-4830, to advance into preclinical studies, and subsequently initiated a Phase 1 clinical trial in August 2018. In November 2020, Merck initiated a Phase 2 clinical trial with MK-4830, triggering a \$10.0 million milestone payment to us. Under the terms of the agreement, Merck is responsible for all future product development expenses for MK-4830, and Agenus is eligible to receive potential milestone payments plus royalties on any future sales.

On September 20, 2018, we, through our wholly-owned subsidiary, Agenus Royalty Fund, LLC, entered into a Royalty Purchase Agreement (the “XOMA Royalty Purchase Agreement”) with XOMA (US) LLC (“XOMA US”). Pursuant to the terms of the XOMA Royalty Purchase Agreement, XOMA US paid us \$15.0 million at closing in exchange for the right to receive 33% of the future royalties and 10% of the future milestones that we are entitled to receive from Incyte and Merck, net of certain of our obligations to a third party and excluding the milestone we received from Incyte in the fourth quarter of 2018. After taking into account our obligations under the XOMA Royalty Purchase Agreement, as of December 31, 2022, we remain eligible to receive up to \$405.0 million and \$76.5 million in potential development, regulatory and commercial milestones from Incyte and Merck, respectively.

In December 2022, we terminated our collaboration agreement with Recepta Biopharma SA (“Recepta”) for the development of balstilimab and zalifrelimab antibodies in certain South American countries and, as part of the termination, all related intellectual property rights were returned to Agenus.

VISION

Our broad portfolio hits many facets of the immune system. Getting the right treatments to the right patient at the right time will unlock the true potential of immunotherapy. VISION is an active learning platform that is intended to use a patient’s tumor, immune system, and health data to predict their best treatment options. Predictions are strengthened by laboratory experiments that interrogate how our drugs perform under conditions that mimic a patient’s tumor and immune system. Data from each prediction automatically feed back into the platform enabling exploration of an immense range of drug-biology interactions not possible via traditional processes. The potential impacts of VISION include faster trials with higher response rates, quicker validation of drug targets, and faster optimized drug design.

SaponiQx & QS-21 STIMULON Adjuvant

QS-21 STIMULON is an adjuvant, which is a substance added to a vaccine or other immunotherapy that is intended to enhance an immune response to the target antigens. QS-21 STIMULON is a natural product, a triterpene glycoside, or saponin, purified from the bark of the Chilean soapbark tree, *Quillaja saponaria*. QS-21 STIMULON has the ability to stimulate an antibody-mediated immune response and has also been shown to activate cellular immunity. It has become a key component in the development of investigational preventive vaccine adjuvants across a wide variety of diseases. These studies have been carried out by academic institutions and pharmaceutical companies in the United States and internationally. A number of these studies have shown QS-21 STIMULON to be significantly more effective in stimulating immune responses than aluminum hydroxide or aluminum phosphate, the adjuvants most commonly used in approved vaccines in the United States today.

In September 2021, we launched SaponiQx, our subsidiary building an integrated vaccine platform based on scalable and secure manufacturing of QS-21 STIMULON and other saponin-based adjuvants. The need for vaccines offering long-lasting efficacy and efficient production was amplified in the COVID-19 pandemic. The durability offered by QS-21 STIMULON has been validated by Shingrix, with protection exceeding nine years, but the supply is limited due to reliance on a complicated and expensive extraction process from a Chilean soap bark tree. To this end, SaponiQx is working with Phyton Biotech and Ginkgo Bioworks to optimize the plant cell culture process which we have developed for the purposes of scalable manufacturing QS-21 and next-generation saponin based adjuvants. In January 2019, we announced that the Bill & Melinda Gates Foundation awarded us a grant to develop the plant cell culture process for QS-21 STIMULON. Our goal is to establish a platform for optimized and scalable vaccine adjuvant formulations to address pandemic threats and other disease settings.

Partnered QS-21 STIMULON Programs

In 2006, we entered into a license agreement and a supply agreement with GSK for the use of QS-21 STIMULON (the “GSK License Agreement” and the “GSK Supply Agreement,” respectively). In 2009, we entered into an Amended and Restated Manufacturing Technology Transfer and Supply Agreement (the “Amended GSK Supply Agreement”) under which GSK has the right to manufacture all of its requirements of commercial grade QS-21 STIMULON. GSK is obligated to supply us, or our affiliates, licensees, or customers, certain quantities of commercial grade QS-21 STIMULON for a stated period of time. In March 2012, we entered into a First Right to Negotiate and Amendment Agreement amending the GSK License Agreement and the Amended GSK Supply Agreement to clarify and include additional rights for the use of QS-21 STIMULON (the “GSK First Right to Negotiate Agreement”). As consideration for entering into the GSK First Right to Negotiate Agreement, GSK paid us an upfront cash payment of \$9.0 million, \$2.5 million of which was creditable toward future royalty payments. We refer to the GSK License Agreement, the Amended GSK Supply Agreement and the GSK First Right to Negotiate Agreement collectively as the GSK Agreements. We are no longer entitled to any additional milestone payments under the GSK Agreements. Under the terms of the Agreement, we are generally entitled to receive a 2% royalty on net sales of prophylactic vaccines for a period of 10 years after the first commercial sale of a resulting GSK product, which was triggered with GSK’s first commercial sale of Shingrix in 2017. Notably, we have already monetized and sold this entire royalty stream as discussed in more detail below. The GSK License and Amended GSK Supply Agreements may be terminated by either party upon a material breach if the breach is not cured within the time specified in the

respective agreement. The termination or expiration of the GSK License Agreement does not relieve either party from any obligation which accrued prior to the termination or expiration. Among other provisions, the license rights granted to GSK survive expiration of the GSK License Agreement. The license rights and payment obligations of GSK under the Amended GSK Supply Agreement survive termination or expiration, except that GSK's license rights and future royalty obligations do not survive if we terminate due to GSK's material breach unless we elect otherwise. We do not incur clinical development costs for products partnered with GSK.

In September 2015, we monetized a portion of the royalties associated with the GSK License Agreement to an investor group led by Oberland Capital Management for up to \$115.0 million in the form of a non-dilutive royalty transaction. Under the terms of a note purchase agreement with the investor group (the "Note Purchase Agreement"), we received \$100.0 million at closing for which the investors had the right to receive 100% of our worldwide royalties under the GSK License Agreement on sales of GSK's Shingrix and malaria (RTS,S) prophylactic vaccine products that contain our QS-21 STIMULON adjuvant to pay down principle and interest. In November 2017, and pursuant to the Note Purchase Agreement, we received an additional \$15.0 million in cash from the investors based on the approval of Shingrix by the FDA. Pursuant to the terms of this transaction, we retained the right to receive all royalties from GSK after all principal, interest and other obligations were satisfied under the Note Purchase Agreement. The Note Purchase Agreement also allowed us to buy back the loan and extinguish the notes early under pre-specified terms, which we did in January 2018.

In January 2018, we sold 100% of all royalties we were entitled to receive from GSK to HCR and used the proceeds to extinguish the debt under the Note Purchase Agreement. HCR paid approximately \$190.0 million at closing for the royalty rights, of which approximately \$161.9 was used to extinguish the prior notes, yielding us approximately \$28.0 million in net proceeds. We were also entitled to receive up to \$40.35 million in milestone payments from HCR based on sales of GSK's vaccines as follows: (i) \$15.1 million upon reaching \$2.0 billion last-twelve-months net sales any time prior to 2024 (the "First HCR Milestone") and (ii) \$25.25 million upon reaching \$2.75 billion last-twelve-months net sales any time prior to 2026 (the "Second HCR Milestone"). GSK's net sales of Shingrix for the twelve months ended December 31, 2019, exceeded \$2.0 billion. As a result, we received the First HCR Milestone of \$15.1 million in 2020 after GSK's net sales of Shingrix in 2019 exceeded \$2.0 billion. GSK's net sales of Shingrix for the twelve months ended June 30, 2022, exceeded \$2.75 billion. As a result, we received the Second HCR Milestone of \$25.25 million in 2022.

Manufacturing

Antibody Manufacturing

In December 2015, we acquired an antibody manufacturing pilot plant in Berkeley, CA from XOMA Corporation ("XOMA"), which we refer to as "Agenus West." A team of former XOMA employees with valuable chemistry, manufacturing and controls experience joined us and continue to operate the facility. Since the acquisition of Agenus West, we have made significant improvements in the plant, and added additional headcount increasing both scale and capacity. Agenus West is currently producing antibody drug substance for certain of our proprietary antibody programs (monospecific and bispecific). In some cases, we have been able to deliver clinical grade material from research cell banks in approximately six to nine months, which is significantly faster than the industry average of 12-18 months. Agenus West utilizes cutting-edge technology platforms, enabling us to be self-reliant and giving us the advantage of drug substance manufacturing speed, cost efficiency, operational flexibility and manufacturing technology transfer to commercial scale partners—all with desired product quality, and with the goal of benefiting patients. In November 2020, we entered into a long-term lease in Emeryville, CA for cGMP commercial manufacturing space. Construction of this end-to-end 83,000sqft. GMP clinical and commercial biologics manufacturing facility (from cell line development through Drug Product fill & finish, packaging and labeling) is being commissioned for GMP manufacturing.

The quality control organization for all of our product candidates in Berkeley and Lexington performs a series of release assays designed to ensure that our antibody drug substance meets all applicable specifications. Our quality assurance staff also reviews manufacturing and quality control records prior to batch release in an effort to assure conformance with cGMP as mandated by the FDA and foreign regulatory agencies. Our manufacturing staff is trained and routinely evaluated for conformance to rigorous manufacturing procedures and quality standards. This oversight is intended to ensure compliance with FDA and foreign regulations and to provide consistent drug substance output. Our quality control and quality assurance staff are similarly trained and evaluated as part of our effort to ensure consistency in the testing and release of the product, as well as consistency in materials, equipment and facilities.

QS-21 STIMULON

Except in the case of GSK, we have retained worldwide manufacturing rights for QS-21 STIMULON, and we have the right to subcontract manufacturing for QS-21 STIMULON. In addition, under the terms of our agreement with GSK, upon request by us, GSK is committed to supply certain quantities of commercial grade QS-21 STIMULON to us and our licensees for a fixed period.

Intellectual Property Portfolio

We seek to protect our technologies through a combination of patents, trade secrets and know-how, and we currently own, co-own or have exclusive rights to approximately 37 issued United States patents and approximately 124 issued foreign patents. We also own, co-own or have exclusive rights to approximately 38 pending United States patent applications and approximately 317 pending foreign patent applications. We may not have rights in all territories where we may pursue regulatory approval for our product candidates.

Through various acquisitions, we own, co-own, or have exclusive rights to a number of patents and patent applications directed to various methods and compositions, including methods for identifying therapeutic antibodies and product candidates arising out of such entities' technology platforms. In particular, we own patents and patent applications relating to our Retrocyte Display technology platform, a high throughput antibody expression platform for the identification of fully-human and humanized monoclonal antibodies. This patent family is projected to expire between 2029 and 2031. We own, co-own, or have exclusive rights to patents and patent applications directed to various methods and compositions, including a patent directed to methods for identifying phosphorylated proteins using mass spectrometry. This patent is projected to expire in 2023. In addition, as we advance our research and development efforts with our institutional and corporate collaborators, we are seeking patent protection for certain newly identified therapeutic antibodies and product candidates. We can provide no assurance that any of our patents, including the patents that we acquired or in-licensed, will have commercial value, or that any of our existing or future patent applications, including the patent applications that were acquired or in-licensed, will result in the issuance of valid and enforceable patents.

The patent rights for each of our clinical candidates, together with the year in which the basic product patent expires (not including any regulatory exclusivities such as the six-month pediatric extension and/or the granted patent term extension in the U.S. and Japan and Supplementary Patent Certificate in Europe), are those for the programs set forth in the table below. Unless otherwise indicated, the years set forth in the table below pertain to the basic product patent expiration for the respective products. Patent term extensions, supplementary protection certificates and pediatric exclusivity periods are not reflected in the expiration dates listed in the table below. In some instances, we may obtain later-expiring patents relating to our products directed to particular forms or compositions, to methods of manufacturing, or to use of the drug in the treatment of particular diseases or conditions. However, in some cases, such patents may not protect our drug from generic or, as applicable, biosimilar competition after the expiration of the basic patent.

Projected Patent Expiration Year on a Candidate by Candidate Basis

Candidate	U.S. Basic Product Patent Expiration Year (Projected)	E.U. Basic Product Patent Expiration Year (Projected)
Balstilimab ⁽¹⁾	2037	2036
Zalifrelimab ⁽²⁾	2037	2036
Botensilimab ⁽³⁾	2037	2037
AGEN1423 ⁽⁴⁾	2039	2039
INCAGN1876 ⁽⁵⁾	2035	2035
INCAGN1949 ⁽⁶⁾	2037	2036
INCAGN2390 ⁽⁷⁾	2037	2037
INCAGN2385 ⁽⁸⁾	2037	2037
MK-4830 ⁽⁹⁾	2038	2038
AGEN2373	2038	2038

(1) Patents co-owned by Agenus and licensed from Ludwig Institute for Cancer Research.

(2) Patents co-owned by Agenus and licensed from Ludwig Institute for Cancer Research.

(3) Patents co-owned by Agenus and licensed from Ludwig Institute for Cancer Research.

(4) Patents owned by Agenus.

(5) Patents co-owned by Agenus, licensed from Ludwig Institute for Cancer Research, and licensed to Incyte.

(6) Patents co-owned by Agenus, licensed from Ludwig Institute for Cancer Research, and licensed to Incyte.

(7) Patents co-owned by Agenus and licensed to Incyte.

(8) Patents co-owned by Agenus and licensed to Incyte.

(9) Co-owned by Agenus and Merck.

Various patents and patent applications have been exclusively licensed to us by the following entities:

On December 5, 2014, our wholly-owned subsidiary, Agenus Switzerland Inc. (formerly known as 4-Antibody AG) (“4-AB”), entered into a license agreement with the Ludwig Institute for Cancer Research Ltd. (“Ludwig”), which replaced and superseded a prior agreement entered into between the parties in May 2011. Pursuant to the terms of the license agreement, Ludwig granted 4-AB an exclusive, worldwide license under certain intellectual property rights of Ludwig and Memorial Sloan Kettering Cancer Center arising from the prior agreement to further develop and commercialize GITR, OX40 and TIM-3 antibodies. On January 25, 2016, we and 4-AB entered into a second license agreement with Ludwig, on substantially similar terms, to develop CTLA-4 and PD-1 antibodies. Pursuant to the December 2014 license agreement, 4-AB made an upfront payment of \$1.0 million to Ludwig. The December 2014 license agreement also obligates 4-AB to make potential milestone payments of up to \$20.0 million for events prior to regulatory approval of licensed GITR, OX40 and TIM-3 products, and potential milestone payments in excess of \$80.0 million if such licensed products are approved in multiple jurisdictions, in more than one indication, and certain sales milestones are achieved. Under the January 2016 license agreement, we are obligated to make potential milestone payments of up to \$12.0 million for events prior to regulatory approval of CTLA-4 and PD-1 licensed products, and potential milestone payments of up to \$32.0 million if certain sales milestones are achieved. Under each of these license agreements, we and/or 4-AB will also be obligated to pay low to mid-single digit royalties on all net sales of licensed products during the royalty period, and to pay Ludwig a percentage of any sublicensing income, ranging from a low to mid-double digit percentage depending on various factors. The license agreements may each be terminated as follows: (i) by either party if the other party commits a material, uncured breach; (ii) by either party if the other party initiates bankruptcy, liquidation or similar proceedings; or (iii) by 4-AB or us (as applicable) for convenience upon 90 days’ prior written notice. The license agreements also contain customary representations and warranties, mutual indemnification, confidentiality and arbitration provisions. Effective December 31, 2022, the license was assigned to Agenus.

Regulatory Compliance

Governmental authorities in the United States and other countries extensively regulate the pre-clinical and clinical testing, manufacturing, labeling, storage, record keeping, advertising, promotion, export, marketing and distribution, among other things, of our investigational product candidates. In the United States, the FDA under the Federal Food, Drug, and Cosmetic Act, the Public Health Service Act and other federal statutes and regulations, subject pharmaceutical products to rigorous review.

In order to obtain approval of a new product from the FDA, we must, among other requirements, submit proof of safety and efficacy as well as detailed information on the manufacture and composition of the product. In most cases, this proof entails extensive pre-clinical, clinical, and laboratory tests. Before approving a new drug or marketing application, the FDA may also conduct pre-licensing inspections of the company, its contract research organizations and/or its clinical trial sites to ensure that clinical, safety, quality control, and other regulated activities are compliant with Good Clinical Practices (“GCP”), or Good Laboratory Practices (“GLP”), for specific non-clinical toxicology studies. The FDA may also require confirmatory trials, post-marketing testing, and extra surveillance to monitor the effects of approved products, or place conditions on any approvals that could restrict the commercial applications of these products. Once approved, the labeling, advertising, promotion, marketing, and distribution of a drug or biologic product must be in compliance with FDA regulatory requirements.

In Phase 1 clinical trials, the sponsor tests the product in a small number of patients or healthy volunteers, primarily for safety at one or more doses. Phase 1 trials in cancer are often conducted with patients who have end-stage or metastatic cancer. In Phase 2, in addition to safety, the sponsor evaluates the efficacy of the product in a patient population somewhat larger than Phase 1 trials. Phase 3 trials typically involve additional testing for safety and clinical efficacy in an expanded population at geographically dispersed test sites. The FDA may order the temporary or permanent discontinuation of a clinical trial at any time.

The sponsor must submit to the FDA the results of pre-clinical and clinical testing, together with, among other things, detailed information on the manufacture and composition of the product, in the form of a new drug application (“NDA”), or in the case of biologics, a BLA. In a process that can take a year or more, the FDA reviews this application and, when and if it decides that adequate data are available to show that the new compound is both safe and effective for a particular indication and that other applicable requirements have been met, approves the drug or biologic for marketing.

Whether or not we have obtained FDA approval, we must generally obtain approval of a product by comparable regulatory authorities of international jurisdictions prior to the commencement of marketing the product in those jurisdictions. We are also subject to cGMP, GCP, and GLP compliance obligations and are subject to inspection by international regulatory authorities. International requirements may in some circumstances be more rigorous than U.S. requirements and may require additional investment in manufacturing process development, non-clinical studies, clinical studies, and record-keeping that are not required for U.S. regulatory compliance or approval. The time required to obtain this approval may be longer or shorter than that required for FDA approval and can also require significant resources in time, money and labor.

Under the laws of the United States, the countries of the European Union and other nations, we and the institutions where we sponsor research are subject to obligations to ensure the protection of personal information of human subjects participating in our

clinical trials. We have instituted procedures that we believe will enable us to comply with these requirements and the contractual requirements of our data sources. The laws and regulations in this area are evolving, and further regulation, if adopted, could affect the timing and the cost of future clinical development activities.

We are also subject to regulation under the Occupational Safety and Health Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act, and other current and potential future federal, state, or local regulations. Our research and development activities involve the controlled use of hazardous materials, chemicals, biological materials, various radioactive compounds, and for some experiments we use recombinant DNA. We believe that our procedures comply with the standards prescribed by local, state, and federal regulations; however, the risk of injury or accidental contamination cannot be completely eliminated. We conduct our activities in compliance with the National Institutes of Health Guidelines for Recombinant DNA Research.

Additionally, the U.S. Foreign Corrupt Practices Act (“FCPA”), prohibits U.S. corporations and their representatives from offering, promising, authorizing or making payments to any foreign government official, government staff member, political party or political candidate in an attempt to obtain or retain business abroad. The scope of the FCPA includes interactions with certain healthcare professionals in many countries. Other countries have enacted similar anti-corruption laws and/or regulations.

Competition

Competition in the pharmaceutical and biotechnology industries is intense. Many pharmaceutical or biotechnology companies have products on the market and are actively engaged in the research and development of products for the treatment of cancer.

Many competitors have substantially greater financial, manufacturing, marketing, sales, distribution, and technical resources, and more experience in research and development, clinical trials, and regulatory matters, than we do. Competing companies developing or acquiring rights to more efficacious therapeutic products for the same diseases we are targeting, or which offer significantly lower costs of treatment, could render our products noncompetitive or obsolete. See Part I-Item 1A. “Risk Factors-Risks Related to the Commercialization of Our Product Candidates-Our competitors may have superior products, manufacturing capability, selling and marketing expertise and/or financial and other resources.”

Academic institutions, governmental agencies, and other public and private research institutions conduct significant amounts of research in biotechnology, medicinal chemistry and pharmacology. These entities have become increasingly active in seeking patent protection and licensing revenues for their research results. They also compete with us in recruiting and retaining skilled scientific talent.

The immune-oncology drug landscape is crowded with several competitors developing assets against a number of targets. Our development plans are spread out across various indications and lines of therapy, either alone or in combination with other assets. Our competitors range from small cap to large cap companies, with assets in pre-clinical or clinical stages of development. Therefore, the landscape is dynamic and constantly evolving. We and our partners have I-O antibody programs, currently in clinical stage development targeting various pathways (as mono- or multi-specifics) including PD-1, CTLA-4, GITR, TIM-3, LAG-3, CD73, TGFb, CD137, ILT2, ILT4 and TIGIT. We are aware of many companies that have antibody-based products on the market or in clinical development that are directed to the same biological targets as these programs, including, without limitation, the following: (1) BMS markets ipilimumab, an anti-CTLA-4 antibody, nivolumab, an anti-PD-1 antibody, and relatlimab, an anti-LAG-3 antibody, and is currently developing agents targeting TIGIT, ILT4 and TGFb. BMS also has a next generation anti-CTLA-4 antibody in the clinic, which may be competitive to our next generation anti-CTLA-4 program, (2) Merck has an approved anti-PD-1 antibody, and has an anti-CTLA-4, anti-TIGIT and LAG-3 antagonists recruiting in clinical trials, (3) Regeneron has an approved anti-PD-1 antibody as well as antibodies targeting LAG-3 and GITR in the clinic, (4) Roche/Genentech has an approved anti-PD-L1 antibody, a late-stage anti-TIGIT antibody, an anti-TGFb antibody as well as bispecific antibodies targeting CD137, and LAG-3 in clinical development, (5) AstraZeneca has an approved anti PD-L1 antibody, an approved anti-CTLA-4 antibody, and has monoclonal antibodies targeting CD73, as well as bispecifics targeting CTLA-4, TIGIT, TIM-3 in clinical development (6) Pfizer has an approved anti-PD-L1 (with Merck KgaA) antibody and (7) GSK has an approved anti PD-1 antibody as well as antibodies targeting TIM-3, LAG-3 and TIGIT in the clinic. Besides these PD-1 and PD-L1 antibodies that were approved in the U.S., we are also aware of competitors with approved PD-1 and PD-L1 agents in ex-U.S. geographies such as China. These include Innovent Biologics, Shanghai Junshi Biosciences (Coherus BioSciences has rights to co-develop in U.S. and Canada), Shanghai HengRui Pharmaceuticals, Beigene (Novartis has ex-China rights), CStone Pharmaceuticals (EQRx has ex-China rights), Gloria Biosciences (Arcus Bioscience has rights in North America, Europe, Japan and certain other territories), Alphamab Oncology/3D Medicines and Akeso Bio.

We are also aware of other competitors with clinical-stage PD-1/PD-L1 agents including but not limited to AbbVie, Amgen, Arcus Biosciences, Biocad Ltd., Boehringer Ingelheim, Checkpoint Therapeutics, CSPC ZhongQi Pharmaceutical Technology, Genor Biopharma/ Apollomics, Incyte, ImmuneOncia Therapeutics Inc., Janssen Pharmaceuticals, Lee’s Pharmaceuticals, Transcenta Holdings (previously Mabspace Biosciences), Maxinovel Pharmaceuticals, Novartis, 3D Medicines, Qilu Pharmaceutical Co Ltd, Shanghai Henlius Biotech Co Ltd, Sinocelltech, Shandong New Time Pharmaceutical Co Ltd, and Lepu Biopharma (previously

Taizhou Houdeaoke Technology). In addition, we are also aware of anti-PD-(L)1 monospecific agents that are preclinical in stage. We are also aware of competitors developing bispecifics targeting PD-1 or PD-L1.

We are aware of companies developing “next-generation” anti-CTLA-4 approaches, which may be competitive to our next-generation anti-CTLA-4 program (AGEN1181). For example, BMS has a next-generation CTLA-4 program in the clinic, a peptide masked version of the non-fucosylated anti CTLA-4 antibody; the peptide masked version is designed to localize activity to the tumor and minimize systemic toxicity associated with parent drug. We are also aware of other next-generation monospecifics targeting CTLA-4 in the clinic, including those from Harbour BioMed, OncoC4, Adagene, and Xilio Therapeutics. We are also aware of companies advancing clinical stage, CTLA-4 targeting multispecifics as a next-generation approach, including, but not limited to, MacroGenics, Xencor, AstraZeneca, Akeso Biopharma and Alphamab. We are also aware of next-generation assets targeting CTLA-4 preclinically.

We are also aware of competitors with clinical stage drug candidates against CTLA-4, GITR, LAG-3, TIM-3, CD73, TGFb, and CD137, in addition to those named earlier in this section. Additionally, AGEN1777, our TIGIT bispecific program licensed to BMS is now in clinical development; we are aware of clinical stage anti-TIGIT antibodies, including bispecifics, that could compete with this program. As outlined above, some of these include, but are not limited to AbbVie, Arcus Biosciences, Alligator Biosciences, Beigene, Compass Therapeutics, Compugen, Corvus Pharmaceuticals, CStone Pharmaceuticals, GSK, Innovent Biologics, Inhibrx, iTeos Therapeutics, Lyvgen Biopharma, MedPacto, Merck KGaA, Mereo Biopharma, Novartis, Seagen, Servier, Scholar Rock, and Sanofi. There is no guarantee that our antibody product candidates will be able to successfully compete with our competitors’ antibody products and product candidates.

Additionally, AGEN1571, our ILT2 antibody is now in clinical development. We are aware of other clinical stage anti-ILT2, anti-ILT4 and anti-HLA-G antibodies that could compete with this program. These include, but are not limited to, Biond Biologics/Sanofi, BMS, Merck, Immune-Onc Therapeutics and Gilead/Tizona Therapeutics. Additionally, some competitors are also developing ILT2 bispecifics; for example, NGM Biopharmaceuticals has a clinical stage bispecific co-targeting ILT2 and ILT4. We are also aware of competitor programs, in monospecific and bispecific formats, that are in preclinical development against this target. There is no guarantee that our antibody product candidates will be able to successfully compete with our competitors’ antibody products and product candidates.

In addition, and prior to regulatory approval, if ever, our other product candidates may compete for access to patients with other products in clinical development, with products approved for use in the indications we are studying, or with off-label use of products in the indications we are studying. We anticipate that we will face increased competition in the future as new companies enter markets we seek to address and scientific developments surrounding immunotherapy and other traditional cancer therapies continue to accelerate.

SaponiQx is developing QS-21 STIMULON. Several other vaccine adjuvants are in development or in use and could compete with QS-21 STIMULON for inclusion in vaccines. These adjuvants may include but are not limited to: (1) oligonucleotides, under development by Dynavax, (2) MF59, under development by Novartis, (3) IC31, under development by Intercell (now part of Valneva), (4) MPL, under development by GSK, (5) Matrix-MTM, under development by Novavax, (6) AS03 and additional AS portfolio members, under development by GSK, and (7) TQL 1055, under development by Adjuvance Technologies. In the past, we have provided QS-21 STIMULON to other entities under materials transfer arrangements. There is a risk that material provided pursuant to a MTA is used without our permission to develop synthetic formulations and/or derivatives of QS-21. In addition, other companies and academic institutions are developing saponin adjuvants, including derivatives and synthetic formulations. These sources may be competitive to our ability to execute future partnering and licensing arrangements involving QS-21 STIMULON. We are also aware of other manufacturers of QS-21. The existence of products developed by these and other competitors, or other products of which we are not aware, or which other companies may develop in the future, may adversely affect the marketability of products developed or sold using QS-21 STIMULON.

Even if we obtain regulatory approval to market our product candidates, the availability and price of our competitors’ products could limit the demand and the price we are able to charge for our product candidates. We may not be able to implement our business plan if the acceptance of our product candidates is inhibited by price competition or the reluctance of physicians to switch from existing methods of treatment to our product candidates, or if physicians switch to other new drug or biologic products or choose to reserve our product candidates for use in limited circumstances.

Human Capital Resources and Employees

As of March 1, 2023, we had 533 employees, of whom 108 were PhDs and 32 were MDs. None of our employees are subject to a collective bargaining agreement. We believe that we have good relations with our employees.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing, and integrating our existing and additional employees. We provide compensation and benefit programs to attract and retain employees. In addition to salaries, these programs include potential annual discretionary bonuses, various stock awards under our equity incentive plans, a

401(k) Plan, healthcare and insurance benefits, flexible spending accounts, paid time off, family leave, and flexible work schedules, among others.

Corporate History

Antigenics L.L.C. was formed as a Delaware limited liability company in 1994 and was converted to Antigenics Inc., a Delaware corporation, in February 2000 in conjunction with our initial public offering of common stock. On January 6, 2011, we changed our name from Antigenics Inc. to Agenus Inc.

Availability of Periodic SEC Reports

Our Internet website address is www.agenusbio.com. We make available free of charge through our website our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (“Exchange Act”), as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the Securities and Exchange Commission (the “SEC”). In addition, we regularly use our website to post information regarding our business, product development programs and governance, and we encourage investors to use our website, particularly the sections entitled “Publications”, “Investors” and “Media,” as sources of information about us.

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

The contents of the websites referred to above are not incorporated into this filing. Further, our references to the URLs for these websites are intended to be inactive textual references only.

Item 1A. Risk Factors

Summary of Risk Factors

Our business is subject to a number of risks and uncertainties. The following is a summary of the principal risk factors described in this section:

Risks Related to our Financial Position and Need for Additional Capital

- We have historically incurred net losses and anticipate that we will continue to incur net losses in the future.
- If we fail to obtain additional financing, we will not be able to complete development and commercialization of our product candidates.
- Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our technologies or product candidates.
- Adverse developments affecting the financial services industry could adversely affect our current and projected business operations and its financial condition and results of operations.

Risks Related to the Development of Our Product Candidates

- Our business is highly dependent on the success of botensilimab and our combination therapy programs.
- Preliminary or interim data that we report on our clinical trials could change materially by the time the data is finalized.
- Our clinical trials or those of our current and future collaborators may reveal significant adverse events or lack of sufficient efficacy or durability of response.
- If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.
- We have limited resources, and the number of product candidates that we are attempting to simultaneously advance creates a significant strain on these resources and could prevent us from successfully advancing any candidates.

Risks Related to the Commercialization of Our Product Candidates

- We may not be able to commercialize, or may be delayed in commercializing, our product candidates.
- We expect the novel nature of our product candidates to create challenges in obtaining regulatory approval.
- Our product candidates may cause undesirable side effects.
- Our competitors may have superior products, manufacturing capability, expertise and/or resources.
- Even if our product candidates receive marketing approval, such products may not achieve market acceptance or coverage, or may become subject to unfavorable pricing regulations or third-party reimbursement practices.

- The market opportunities for our product candidates may be small, and our estimates of the prevalence of our target patient populations may be inaccurate.
- We have no experience in marketing, selling and distributing products or performing commercial compliance.

Risks Related to Manufacturing and Supply

- Manufacturing challenges could result in having insufficient quantities of our drug candidates or drugs or such quantities at an acceptable cost.
- We own and operate our own clinical scale manufacturing infrastructure, which is costly and time-consuming.
- We have built and are in the process of qualifying our own commercial scale manufacturing facility, which is costly and time-consuming and will require regulatory approvals before the facility can begin manufacturing.

Risks Related to Our Reliance on Third Parties

- We are dependent upon third parties to further develop and commercialize certain of our antibody programs.
- Failure to enter into and/or maintain clinical trial, licensing, distribution and/or collaboration agreements may adversely affect our business.
- If third parties do not carry out their contractual duties, we may not be able to obtain regulatory approval of or commercialize any potential product candidates.

Risks Related to Government Regulation

- The regulatory approval process for our product candidates is uncertain and will be lengthy, and may evolve even after we have engaged with relevant regulatory authorities and selected a regulatory pathway.
- We may fail to obtain regulatory approval of our product candidates.
- Our relationships with third parties are subject to extensive healthcare laws and regulations.
- If we receive regulatory approval of any product candidates or therapies, we will be subject to ongoing regulatory obligations and continued regulatory review.
- Healthcare regulatory reform measures may have an adverse effect on our business.
- Laws and regulations governing any international operations may preclude us from developing, manufacturing and selling certain products outside of the United States and require us to develop and implement costly compliance programs.
- Risks associated with doing business internationally could negatively affect our business.
- Our ability to use net operating losses and tax credits to offset future income may be subject to limitations.

Risks Related to Our Intellectual Property

- We may be unable to obtain and enforce patent protection for our product candidates and related technology.
- If we fail to comply with our intellectual property licenses, we could lose important license rights.
- We may not be able to protect our intellectual property rights throughout the world.
- Changes in U.S. patent law could diminish the value of patents.
- We may be unable to protect the confidentiality of our proprietary information.
- Our employees, consultants or independent contractors could wrongfully use or disclose confidential information.
- We may infringe the patents and other proprietary rights of third parties.
- We may become involved in lawsuits to protect or enforce our patents.

Risks Related to Business Operations, Employee Matters and Managing Growth

- We may encounter difficulties in managing our recent growth.
- Legal claims against us may create distraction for our management team, adversely impact our ability to develop and gain approval for our products and/or result in substantial damages.
- Information technology security breaches could result in a material disruption in our business and subject us to sanctions and penalties.
- Our subsidiaries MiNK Therapeutics may be unsuccessful at advancing its cell therapy business, and SaponiQx, Inc. may be unsuccessful in advancing its vaccine adjuvant business. Our subsidiaries CTC and Atlant Clinical may be unsuccessful in maintaining and growing their clinical research organization ("CRO") businesses.

Risks Related to Our Common Stock

- Our stock's trading volume and public trading price has been volatile.
- We do not intend to pay cash dividends on our common stock.
- Anti-takeover provisions under our charter documents and Delaware law could delay or prevent a change of control.

Our future operating results could differ materially from the results described in this Annual Report on Form 10-K due to the risks and uncertainties described herein. You should consider carefully all information about risks in evaluating our business. If any of the described risks actually occur, our business, financial conditions, results of operations and future growth prospects would likely be materially and adversely affected. In these circumstances, the market price of our common stock would likely decline.

We cannot assure investors that our assumptions and expectations will prove to be correct. Important factors could cause our actual results to differ materially from those indicated or implied by forward-looking statements. See “Note Regarding Forward-Looking Statements” in this Annual Report on Form 10-K. Factors that could cause or contribute to such differences include those factors discussed below.

Risks Related to Our Financial Position and Need for Additional Capital

We have incurred net losses in every year since our inception and anticipate that we will continue to incur net losses in the future.

Investment in I-O product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that any potential product candidate will fail to demonstrate adequate effect or an acceptable safety profile, gain regulatory approval and become commercially viable. We have no products approved for commercial sale and have not generated any revenue from product sales to date, and we continue to incur significant research and development and other expenses related to our ongoing operations. As a result, we are not profitable and have incurred losses in each period since our inception. Our net losses for the years ended December 31, 2022, 2021, and 2020, were \$230.7 million, \$28.7 million and \$182.9 million, respectively. We expect to incur significant losses for the foreseeable future as we continue our research and development efforts, seek regulatory approvals, and begin commercial readiness efforts for our product candidates. We anticipate that our expenses will increase substantially if, and as, we:

- conduct clinical trials for our pipeline of product candidates;
- further develop our antibody programs and platforms, MiNK's cell therapy programs, and our saponin-based vaccine adjuvants (through SaponiQx);
- continue to discover and develop additional product candidates;
- maintain, expand and protect our intellectual property portfolio;
- hire additional clinical, scientific, manufacturing, commercial and related personnel;
- expand in-house clinical and commercial manufacturing capabilities;
- establish a commercial manufacturing source and secure supply chain capacity sufficient to provide commercial quantities of any product candidates for which we may obtain regulatory approval;
- acquire or in-license other product candidates and technologies;
- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- establish a sales, marketing and distribution infrastructure to commercialize any products for which we may obtain regulatory approval; and
- add operational, regulatory, financial and management information systems and personnel, including personnel to support our product development and planned commercialization efforts.

To become profitable, we or any current or potential future licensees and collaboration partners must develop, gain approval and eventually commercialize products with significant market potential at an adequate profit margin after cost of goods sold and other expenses. This will require us to be successful in a range of challenging activities, including completing clinical trials, obtaining marketing approval for product candidates, obtaining adequate reimbursement for product candidates, manufacturing, marketing and selling products for which we may obtain marketing approval and satisfying any post-marketing requirements. We may never succeed in any or all of these activities and, even if we do, we may never generate revenue that is significant or large enough to achieve profitability. If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would decrease the value of our company and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations. A decline in the value of our company also could cause our stockholders to lose all or part of their investment.

Even if we succeed in commercializing one or more of our product candidates, we will continue to incur substantial research and development costs and other expenditures to develop and market additional product candidates in our pipeline. We may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue. Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' equity and working capital.

Furthermore, our ability to generate cash from operations is dependent in part on the success of our licensees and collaboration partners, as well as the likelihood and timing of new strategic licensing and partnering relationships and/or successful development, approval and commercialization of product candidates, including through our antibody programs and platforms, MiNK's adoptive cell therapy programs, and our saponin-based vaccine adjuvants (through SaponiQx).

We will require additional capital to fund our operations, and if we fail to obtain necessary financing, we will not be able to complete the development and commercialization of our product candidates.

Our operations have consumed substantial amounts of cash since inception. We expect to continue to spend substantial amounts to conduct further research and development and preclinical or nonclinical testing and studies and clinical trials of our current and future programs, to build a supply chain, to seek regulatory approvals for our product candidates and to launch and commercialize any products for which we receive regulatory approval, including building our own commercial organization. To date, we have financed our operations primarily through the sale of equity, assets, notes, corporate partnerships and interest income. In order to finance future operations, we will be required to raise additional funds in the capital markets, through arrangements with collaboration partners or from other sources.

As of December 31, 2022, we had \$193.4 million of cash, cash equivalents and short-term investments. Based on our current plans and projections, we believe that our cash resources as of December 31, 2022, will be sufficient to satisfy our liquidity requirements for more than one year from when the financial statements included in this Annual Report on Form 10-K were issued. However, our future capital requirements and the period for which our existing resources will support our operations may vary significantly from what we expect, and we will in any event require additional capital in order to complete clinical development of our current programs. Our monthly spending levels will vary based on new and ongoing development and corporate activities. Because the length of time and activities associated with development of our product candidates is highly uncertain, we are unable to estimate the actual funds we will require for development and any approved marketing and commercialization activities. Our future funding requirements, both near and long-term, will depend on many factors, including, but not limited to:

- the initiation, progress, timing, costs and results of preclinical or nonclinical testing and studies and clinical trials for our product candidates;
- the clinical development plans we establish for our product candidates;
- the number and characteristics of future product candidates that we develop or may in-license;
- our ability to establish and maintain strategic partnerships, licensing or other arrangements and the financial terms of such arrangements;
- the timing, receipt and amount of sales of, or royalties on, our future products and those of our partners, if any;
- the outcome, timing and cost of meeting regulatory requirements established by the FDA, the European Medicines Agency (the "EMA") and other comparable foreign regulatory authorities;
- the cost of filing, prosecuting, defending and enforcing our patent claims and other intellectual property rights;
- the cost of defending intellectual property disputes, including patent infringement actions brought by third parties against us or our product candidates;
- the effect of competing technological and market developments;
- the costs of establishing and maintaining a clinical and commercial supply chain for the development and manufacture of our product candidates;
- the cost and timing of establishing, expanding and scaling commercial manufacturing capabilities; and
- the cost of establishing sales, marketing and distribution capabilities for any product candidates for which we may receive regulatory approval in regions where we choose to commercialize our products on our own.

We do not have any committed external source of funds or other support for our development efforts and we cannot be certain that additional funding will be available on acceptable terms, or at all. Until we can generate sufficient product or royalty revenue to finance our cash requirements, which we may never do, we expect to finance our future cash needs through a combination of public or private equity offerings, debt financings, collaborations, strategic alliances, licensing arrangements and other marketing or distribution arrangements. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of one or more of our products or product candidates or one or more of our other research and development initiatives. Any of the above events could significantly harm our business, prospects, financial condition and results of operations and cause the price of our common stock to decline and we may become insolvent.

From time to time we have issued, and in the future may issue, projections regarding our future cash position. Such projections include the expectation that we will be able to raise additional funds from the aforementioned sources and our ability to do so is subject to the risks described herein.

General economic conditions in the United States and abroad, including the impacts of public health crises, such as the COVID-19 pandemic, the policies of the Biden Administration or otherwise, and geopolitical disputes and wars such the invasion of Ukraine by Russia, may have a material adverse effect on the financial markets and our liquidity and financial condition, particularly if our ability to raise additional funds is impaired.

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

We may seek additional capital through a combination of public and private equity offerings, debt financings, strategic partnerships and alliances and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, our stockholders' ownership interest will be diluted, and the terms may include liquidation or other preferences that adversely affect their rights as a stockholder. The incurrence of indebtedness would result in increased fixed payment obligations and could involve certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. If we raise additional funds through strategic partnerships and alliances and licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies or product candidates or grant licenses on terms unfavorable to us. We also could be required to seek collaborators for one or more of our current or future product candidates at an earlier stage than otherwise would be desirable or relinquish our rights to product candidates or technologies that we otherwise would seek to develop or commercialize ourselves.

The nature and length of our operating history may make it difficult to evaluate our technology and product development capabilities and predict our future performance.

We have no products approved for commercial sale and have not generated any revenue from product sales. Our ability to generate product revenue or profits will depend on the successful development, regulatory approval and eventual commercialization of our product candidates, which may never occur. We may never be able to develop or commercialize a marketable product.

All of our programs require additional pre-clinical or clinical research and development, clinical and commercial manufacturing supply, capacity and/or expertise, building of a commercial organization, substantial investment and/or significant marketing efforts before we generate any revenue from potential product sales. Other programs of ours require additional discovery research and then preclinical development. In addition, our product candidates must be approved for marketing by the FDA or certain other health regulatory agencies, including the EMA, before we may commercialize any product.

Our operating history, particularly in light of the rapidly evolving and competitive I-O field, may make it difficult to evaluate our technology and industry and predict our future performance. We will encounter risks and difficulties frequently experienced by clinical stage companies in rapidly evolving fields. If we do not address these risks successfully, our business will suffer. Similarly, we expect that our financial condition and operating results will fluctuate significantly from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. As a result, our stockholders should not rely upon the results of any quarterly or annual period as an indicator of future operating performance.

In addition, as a clinical stage company, we have encountered unforeseen expenses, difficulties, complications, delays and other known and unknown circumstances. As we advance our product candidates, we will need to transition from a company with a research and clinical focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

Unstable market and economic conditions may have serious adverse consequences on our business, financial condition and stock price.

Global credit and financial markets have experienced extreme volatility and disruptions in the past several years, including increased inflation, severely diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth, increases in unemployment rates and uncertainty about economic stability, and the volatility of such market and economic conditions have increased as a result of the COVID-19 pandemic and the Russian invasion of Ukraine. The scope, duration and long-term impact of the COVID-19 pandemic and the Russian invasion are unknown at this time, so there can be no assurance how significant any deterioration in credit and financial markets and confidence in economic conditions will be and how long it may continue. Our general business strategy may be adversely affected by any such economic downturn, volatile geopolitical and business environment or continued unpredictable and unstable market conditions. If the current equity and credit markets deteriorate, or do not improve, it may make any necessary debt or equity financing more difficult, more costly, and more dilutive. Failure to secure any necessary financing in a timely manner and on favorable terms could have a material adverse effect on our growth strategy, financial performance and stock price and could require us to delay or abandon clinical development plans for some or all of our pipeline candidates. In addition, there is a risk that one or more of our current service providers, manufacturers and other partners may not survive these difficult economic times, which could directly affect our ability to attain our operating goals on schedule and on budget.

As of December 31, 2022, we had cash, cash equivalents and short-term investments of \$193.4 million. While we are not aware of any downgrades, material losses, or other significant deterioration in the fair value of our cash equivalents and investments since December 31, 2022, no assurance can be given that deterioration of the global credit and financial markets would not negatively impact our current portfolio of cash equivalents or our ability to meet our financing objectives. Furthermore, our stock price may decline due in part to the volatility of the stock market and any general economic downturn.

Our obligations to the holders of our promissory notes could materially and adversely affect our liquidity.

In February 2015, we issued subordinated promissory notes in the aggregate principal amount of \$14.0 million, of which \$13.0 million remains outstanding, with annual interest of 8% (the “2015 Subordinated Notes”). The 2015 Subordinated Notes have been amended to extend the maturity date to February 2025. The 2015 Subordinated Notes include default provisions that allow for the acceleration of the principal payment of the 2015 Subordinated Notes in the event we become involved in certain bankruptcy proceedings, become insolvent, fail to make a payment of principal or (after a grace period) interest on the 2015 Subordinated Notes, default on other indebtedness with an aggregate principal balance of \$13.0 million or more if such default has the effect of accelerating the maturity of such indebtedness, or become subject to a legal judgment or similar order for the payment of money in an amount greater than \$13.0 million if such amount will not be covered by third-party insurance. If we default on the 2015 Subordinated Notes and the repayment of such indebtedness is accelerated, our liquidity could be materially and adversely affected.

If we do not have sufficient cash on hand to service or repay our 2015 Subordinated Notes, we may be required to raise additional capital which entails the risks described herein.

Adverse developments affecting the financial services industry, such as actual events or concerns involving liquidity, defaults or non-performance by financial institutions or transactional counterparties, could adversely affect our current and projected business operations and its financial condition and results of operations.

We regularly maintain cash balances at third-party financial institutions, such as Silicon Valley Bank (“SVB”), in excess of the Federal Deposit Insurance Corporation (“FDIC”) insurance limit. On March 10, 2023, SVB was closed by the California Department of Financial Protection and Innovation, which appointed the FDIC as receiver. Although the Department of the Treasury, the Federal Reserve and the FDIC issued a joint statement on March 12, 2023 that all depositors of SVB would have access to all of their money after only one business day of closure, including funds held in uninsured deposit accounts, if another depository institution is subject to other adverse conditions in the financial or credit markets, it could impact access to our invested cash or cash equivalents and could adversely impact our operating liquidity and financial performance. In addition, if any parties with whom we conduct business are unable to access funds pursuant to such instruments or lending arrangements with such a financial institution, such parties’ ability to pay their obligations to us or to enter into new commercial arrangements requiring additional payments to us could be adversely affected.

Risks Related to the Development of Our Product Candidates

Our business is highly dependent on the success of our clinical stage programs, including botensilimab and related combination therapy programs, which still require significant additional clinical development.

Our business and future success depends in large part on our ability to obtain regulatory approval of, and then successfully launch and commercialize, our product candidates. Our timelines are aggressive and subject to various factors outside of our control, including regulatory review and approval. Although we have engaged with the FDA on our regulatory programs and protocols, there is no guarantee that our BLA submissions, if any, will be approved, or that we will be able to successfully commercialize these assets. If the botensilimab programs (including combination therapies with botensilimab) encounter safety, efficacy, supply or manufacturing problems, developmental delays, regulatory or commercialization issues or other problems, our development plans and business may be significantly harmed.

Even though we have observed positive results to date, they may not necessarily be predictive of the final results of the trials or future clinical trials or otherwise be sufficient to support an approval. Many companies in the pharmaceutical, biopharmaceutical and biotechnology industries have suffered significant setbacks in clinical trials after achieving positive results, and we cannot be certain that we will not face similar setbacks.

All of our other product candidates are in earlier stages of development and will require additional nonclinical and/or clinical development, regulatory review and approval in multiple jurisdictions, substantial investment, access to sufficient commercial manufacturing capacity and significant marketing and commercial efforts before we can generate any revenue from product sales.

The successful development of immune modulating antibodies, including botensilimab, alone and in combination with other therapeutic candidates, is highly uncertain.

Successful development of immune modulating antibodies, such as botensilimab, is highly uncertain and is dependent on numerous factors, many of which are beyond our control. Immune modulating antibodies that appear promising in the early phases of development may fail to reach, or remain in, the market for several reasons, including:

- clinical trial results may show our candidates to be less effective than expected (e.g., a clinical trial could fail to meet its primary endpoint(s)) or to have unacceptable side effects, toxicities or other negative consequences;
- failure to receive the necessary regulatory approvals or a delay in receiving such approvals. Among other things, such delays may be caused by slow enrollment in clinical trials, patients dropping out of trials, length of time to achieve trial endpoints, additional time requirements for data analysis, or BLA preparation, discussions with the FDA, an FDA request for a diagnostic or additional nonclinical or clinical data that may be deemed necessary to meet evolving regulatory standards and pathways, or unexpected safety or manufacturing issues;
- clinical and commercial manufacturing costs, formulation issues, pricing or reimbursement issues, or other factors that make the candidates uneconomical;
- proprietary rights of others and their competing products and technologies that may prevent our candidates from being commercialized or profitable;
- failure to initiate or successfully complete confirmation trials for candidates that receive accelerated approval; and
- the length of time necessary to complete clinical trials and to submit an application for marketing approval for a final decision by a regulatory authority may be difficult to predict for immune modulating antibodies, including for CTLA-4 antibody and related combination therapies.

Even if we are successful in obtaining marketing approval, commercial success of any approved products will also depend in large part on the availability of insurance coverage and adequate reimbursement from third-party payors, including government payors, such as the Medicare and Medicaid programs, and managed care organizations, which may be affected by existing and future healthcare reform measures designed to reduce the cost of healthcare. Third-party payors may limit the definition of the target treatment population to one smaller than that implied in the label granted by regulatory authorities, and could require us to conduct additional studies, including post-marketing studies related to the cost-effectiveness or comparative benefit of a product, to qualify for reimbursement, which could be costly and divert our resources. If government and other healthcare payors were not to provide adequate insurance coverage and reimbursement levels for any one of our products once approved, market acceptance and commercial success would be reduced.

In addition, if any of our products are approved for marketing, we will be subject to significant regulatory obligations regarding the submission of safety and other post-marketing information and reports and registration and will need to continue to comply (or ensure that our third-party providers comply) with cGMPs and good clinical practices (“GCPs”), for any clinical trials that we conduct post-approval. In addition, there is always the risk that we or a regulatory authority might identify previously unknown problems with a product post-approval, such as adverse events of unanticipated severity or frequency. Compliance with these requirements is costly

and any failure to comply or other issues with our product candidates' post-approval could have a material adverse effect on our business, financial condition and results of operations.

Interim top-line and preliminary 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 publish interim top-line or preliminary data from our clinical trials. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available and mature over time. Preliminary or top-line data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, interim and preliminary data should be viewed with caution until the final data are available. Multiple times last year and earlier this year, we reported positive interim data from our lead trials of botensilimab (AGEN1181). For example, in June 2022 at the ESMO World Congress on Gastrointestinal Cancer, and in November 2022 at the Society for Immunotherapy Cancer meeting and in January 2023 at American Society of Clinical Oncology – Gastrointestinal Cancers Symposium, we reported new clinical responses from a Phase 1/2 trial of botensilimab (as a monotherapy and combination with balstilimab). Each of these results may not be indicative of the final results from the relevant study, and the final results may not support a marketing approval for any of these candidates. There is no guarantee that botensilimab, balstilimab, zalifrelimab, or AGEN2373 (or any of our other earlier stage programs) will receive marketing approval in any jurisdiction, and failure to achieve marketing approval for any of these programs as a monotherapy or combination could have a material adverse impact on our business. Any adverse differences between preliminary or interim data and final data could significantly harm our business and partnership prospects.

Preclinical development is uncertain. Some of our antibody programs are in early stage development that may experience delays or may never advance to clinical trials, which would adversely affect our ability to obtain regulatory approvals or commercialize these programs on a timely basis or at all, and which would have an adverse effect on our business.

Several of our proprietary antibody programs are currently in early stage development, and many of our antibody programs are pre-clinical. We cannot be certain of the timely completion or outcome of our preclinical testing and studies and cannot predict if the FDA or other regulatory authorities will accept our proposed clinical programs or if the outcome of our preclinical testing and studies will ultimately support the further development of our programs. As a result, we cannot be sure that we will be able to submit INDs or similar applications for our preclinical programs on the timelines we expect, if at all, and we cannot be sure that submission of INDs or similar applications will result in the FDA or other regulatory authorities allowing clinical trials to begin.

Our clinical trials or those of our current and future collaborators may reveal significant adverse events not seen in our preclinical or nonclinical studies and may result in a safety profile that could inhibit regulatory approval or market acceptance of any of our product candidates.

Before obtaining regulatory approvals for the commercial sale of any products, we must demonstrate through potentially lengthy, complex and expensive preclinical studies and clinical trials that our product candidates are both safe and effective for use in each target indication. Failure can occur at any time during the clinical trial process.

Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy profile despite having progressed through nonclinical studies and initial clinical trials. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or unacceptable safety issues, notwithstanding promising results in earlier trials. Most product candidates that commence clinical trials are never approved as products and there can be no assurance that any of our current or future clinical trials will ultimately be successful or support further clinical development of any of our product candidates.

We intend to develop our existing antibody candidates, and may develop future product candidates, alone and in combination with one or more additional cancer therapies. The uncertainty resulting from the use of our product candidates in combination with other cancer therapies may make it difficult to accurately predict side effects in future clinical trials.

If significant adverse events or other side effects are observed in any of our current or future clinical trials, we may have difficulty recruiting patients to our clinical trials, patients may drop out of our trials, or we may be required to abandon the trials or our development efforts of one or more product candidates altogether. We, the FDA or other applicable regulatory authorities, or an institutional review board may suspend clinical trials of a product candidate at any time for various reasons, including a belief that subjects in such trials are being exposed to unacceptable health risks or adverse side effects. Some potential therapeutics developed in the biotechnology industry that initially showed therapeutic promise in early-stage trials have later been found to cause side effects

that prevented their further development. Even if the side effects do not preclude the drug from obtaining or maintaining marketing approval, undesirable side effects may inhibit market acceptance of any approved product due to its tolerability versus other therapies. Any of these developments could materially harm our business, financial condition and prospects.

Positive results from preclinical and clinical studies of our product candidates are not necessarily predictive of the results of later preclinical studies and any future clinical trials of our product candidates. If we cannot replicate the positive results from our earlier studies of our product candidates in our later studies and future clinical trials, we may be unable to successfully develop, obtain regulatory for and commercialize our product candidates.

Any positive results from our preclinical studies of our product candidates may not necessarily be predictive of the results from required later preclinical studies and clinical trials. Similarly, even if we are able to complete our planned preclinical studies or any future clinical trials of our product candidates according to our current development timeline, the positive results from such preclinical studies and clinical trials of our product candidates may not be replicated in subsequent preclinical studies or clinical trial results. Moreover, positive results observed in interim data may not necessarily be predictive of the results from final, more mature data.

Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in early-stage development and we cannot be certain that we will not face similar setbacks. These setbacks have been caused by, among other things, preclinical and other nonclinical findings made while clinical trials were underway, or safety or efficacy observations made in preclinical studies and clinical trials, including previously unreported adverse events. Moreover, preclinical, nonclinical and clinical data are often susceptible to varying interpretations and analyses and many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials nonetheless failed to obtain FDA or EMA approval.

If we encounter difficulties enrolling patients in our clinical trials or if our clinical trial sites encounter staffing shortages that impact their operations, our clinical development activities could be delayed or otherwise adversely affected.

We may experience difficulties in patient enrollment and in and timely completion of our clinical trials for a variety of reasons. The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability, or the ability of our CROs to enroll a sufficient number of patients who remain in the study until its conclusion and the sites being able to operate as needed to adhere to the clinical requirements as set forth in the protocol. The enrollment of patients depends on many factors, including:

- the severity of the disease under investigation;
- the patient eligibility and exclusion criteria defined in the protocol;
- the size of the patient population required for analysis of the trial's primary endpoints;
- the proximity of patients to trial sites;
- the design of the trial;
- our ability, and that of our CROs, to recruit clinical trial investigators with the appropriate competencies and experience;
- clinicians' and patients' perceptions as to the potential advantages and risks of the product candidate being studied in relation to other available therapies, including any new drugs that may be in clinical development or approved for the indications we are investigating;
- the efforts to facilitate timely enrollment in clinical trials;
- the patient referral practices of physicians;
- the ability of our CROs and our ability to oversee and/or the monitoring of patients adequately during and after treatment;
- the ability of our CROs and our ability to oversee and/or to obtain and maintain patient consents; and
- the risk that patients enrolled in clinical trials will drop out of the trials before completion.

In addition, our clinical trials will compete with other clinical trials for product candidates that are in the same therapeutic areas as our product candidates, and this competition will reduce the number and types of patients available to us, because some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. Since the number of qualified clinical investigators is limited, we expect to conduct some of our clinical trials at the same clinical trial sites that

some of our competitors use, which will reduce the number of patients who are available for our clinical trials at such clinical trial sites. Moreover, because our product candidates represent a departure from more commonly used methods for our targeted therapeutic areas, potential patients and their doctors may be inclined to use conventional or newly launched competitive therapies, rather than enroll patients in any future clinical trial.

Staffing shortages at clinical trial sites and delays in patient enrollment may result in increased costs or may affect the timing or outcome of the planned clinical trials, which could prevent completion of these trials and adversely affect our ability to advance the development of our product candidates. The COVID-19 pandemic and staffing shortages impacted by the pandemic and disruptions in the broader labor market including at clinical trial sites may cause delays in the patient enrollment in our clinical trials and could prevent the completion and/or timely completion of such trials.

The number of product candidates that we are attempting to simultaneously advance creates a significant strain on our resources and may prevent us from successfully advancing any product candidates. If, due to our limited resources and access to capital, we prioritize development of certain product candidates, such decisions may prove to be wrong and may adversely affect our business.

We or our affiliates are currently advancing multiple immune modulating antibodies, adoptive cell therapies (MiNK subsidiary) and vaccine adjuvants (SaponiQx subsidiary). Simultaneously advancing so many product candidates may create a significant strain on our limited human and financial resources. As a result, we may not be able to provide sufficient resources to any single product candidate to permit the successful development, approval and commercialization of such product candidate, causing material harm to our business.

If, due to our limited resources and access to capital, we prioritize development of certain product candidates that ultimately prove to be unsuccessful, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential or a greater likelihood of success. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities.

Risks Related to the Commercialization of Our Product Candidates

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

Our product candidates and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale, distribution, import and export are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by comparable authorities in other countries. Before we can commercialize any of our product candidates, we must obtain marketing approval. Except for Prophage in Russia, we have not received approval to market any of our product candidates from regulatory authorities in any jurisdiction and it is possible that none of our product candidates or any product candidates we may seek to develop in the future will ever obtain regulatory approval. Although we successfully filed and had accepted the BLA for balstilimab in 2021, it was subsequently withdrawn, and we, as a company, have limited experience in filing and supporting the applications necessary to gain regulatory approvals and rely in part on third-party CROs and/or regulatory consultants to assist us in this process. Securing regulatory approval requires the submission of extensive preclinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the product candidate's safety and efficacy. Securing regulatory approval also requires the submission of information about the drug manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. Our product candidates may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use.

The process of obtaining regulatory approvals, both in the United States and abroad, is expensive, may take many years if additional clinical trials are required, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved as well as evolving regulatory standards for products like ours. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted IND, Premarket Approval, BLA or equivalent application types, may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that our data are insufficient for approval and require additional preclinical, clinical or other studies. Our product candidates could be delayed in receiving, or fail to receive, regulatory approval for many reasons, including the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that a product candidate is safe and effective for its proposed indication or a related companion diagnostic is suitable to identify appropriate patient populations;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;
- we may be unable to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- the regulatory pathway being pursued is eliminated due to the unexpected or early full approval of a competing agent, as occurred with balstilimab;
- the data collected from clinical trials of our product candidates may not be sufficient to support the submission of an BLA or other submission or to obtain regulatory approval in the United States or elsewhere;
- the FDA or comparable foreign regulatory authorities may fail to approve our manufacturing processes or facilities or those of our third-party manufacturers with which we contract for clinical and commercial supplies; and
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

Of the large number of drugs in development, only a small percentage successfully complete the FDA or foreign regulatory approval processes and are commercialized. The lengthy approval process as well as the unpredictability of future clinical trial outcomes may result in our failing to obtain regulatory approval to market our product candidates, which would significantly harm our business, results of operations and prospects.

We expect the novel nature of our product candidates to create further challenges in obtaining regulatory approval. As a result, our ability to develop product candidates and obtain regulatory approval may be significantly impacted.

The general approach for FDA approval of a new biologic or drug is for sponsors to seek licensure or approval based on dispositive data from well-controlled, Phase 2 or 3 clinical trials of the relevant product candidate in the relevant patient population. Phase 2 or 3 clinical trials typically involve hundreds of patients dosed in well-controlled trials that have significant costs and take years to complete. We may seek to utilize, among other strategies, FDA's accelerated approval program for our product candidates given the limited alternatives for treatments for certain rare diseases, cancer and autoimmune diseases, but the FDA may not agree with our plans. Moreover, even if we do receive accelerated approval from the FDA for one or more of our product candidates, there is no guarantee that we will be able to successfully complete one or more confirmatory trials needed to obtain full approval.

The FDA may also require a panel of experts, referred to as an Advisory Committee, to deliberate on the adequacy of the safety and efficacy data to support approval. The opinion of the Advisory Committee, although not binding, may have a significant impact on our ability to obtain approval of any product candidates that we develop based on the completed clinical trials.

Moreover, approval of genetic or biomarker diagnostic tests may be necessary in order to advance some of our product candidates to clinical trials or potential commercialization. In the future, regulatory agencies may require the development and approval of such tests, which can be expensive and time-consuming. Accordingly, the regulatory approval pathway for such product candidates may be uncertain, complex, expensive and lengthy, and approval may not be obtained.

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

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

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

Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not guarantee that we will be able to obtain or maintain regulatory approval in any other jurisdiction, while a failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory approval process in others. For example, even if the FDA grants marketing approval of a product candidate, comparable regulatory authorities in foreign jurisdictions must also approve the manufacturing, marketing and promotion of the product candidate in those jurisdictions. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the United States, including additional nonclinical studies or clinical trials as clinical trials conducted in one jurisdiction may not be deemed to have representative patients enrolled or be accepted by regulatory authorities in other jurisdictions. In many jurisdictions outside the United States, a product candidate must be approved for reimbursement before it can be approved for sale in that jurisdiction. In some cases, the price that we intend to charge for our products is also subject to approval.

We may also submit marketing applications in other countries. Regulatory authorities in jurisdictions outside of the United States have requirements for approval of product candidates with which we must comply prior to marketing in those jurisdictions. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries. If we fail to comply with the regulatory requirements in international markets and/or receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed.

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

Undesirable side effects caused by our product candidates could cause us to interrupt, delay or halt preclinical studies or could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other regulatory authorities. As is the case with many treatments for cancer and autoimmune diseases, it is likely that there may be side effects associated with their use. Results of our trials could reveal a high and unacceptable severity and prevalence of these or other side effects. In such an event, our trials could be suspended or terminated, and the FDA or comparable foreign regulatory authorities could order us to cease further development of or deny approval of our product candidates for any or all targeted indications. The treatment-related side effects could affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. Any of these occurrences may delay and/or increase the costs of our development programs and harm our business, financial condition and prospects significantly.

Further, clinical trials by their nature utilize a sample of the potential patient population. With a limited number of patients and limited duration of exposure, rare and severe side effects of our product candidates may only be uncovered with a significantly larger number of patients exposed to the product candidate. If our product candidates receive marketing approval and we or others identify undesirable side effects caused by such product candidates (or any other similar drugs) after such approval, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw or limit their approval of such product candidates;
- regulatory authorities may withdraw or limit their approval of such product candidates;
- regulatory authorities may require the addition of labeling statements, such as a “boxed” warning or a contraindication;
- we may be required to create a medication guide outlining the risks of such side effects for distribution to patients;
- we may be required to change the way such product candidates are distributed or administered, conduct additional clinical trials or change the labeling of the product candidates which could cause delay and/or increase costs;
- regulatory authorities may require a Risk Evaluation and Mitigation Strategy (“REMS”), plan to mitigate risks, which could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools;
- we may be subject to regulatory investigations and government enforcement actions which may cause delay and/or increase costs;

- we may decide to remove such product candidates from the marketplace;
- we could be sued and held liable for injury caused to individuals exposed to or taking our product candidates; and
- our reputation may suffer.

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

Our competitors may have superior products, manufacturing capability, selling and marketing expertise and/or financial and other resources.

Our product candidates and the product candidates in development by our collaboration partners may fail because of competition from major pharmaceutical companies and specialized biotechnology companies that market products, or that are engaged in the development of product candidates and for the treatment cancer. Many of our competitors, including large pharmaceutical companies, have substantially greater financial, technical and other resources than we do, such as larger research and development staff, experienced marketing and manufacturing organizations and well-established sales forces. Our competitors may:

- develop safer or more effective therapeutic drugs or vaccine adjuvants and other products;
- establish superior intellectual property positions;
- discover technologies that may result in medical insights or breakthroughs, which render our drugs or vaccine adjuvants obsolete, possibly before they generate any revenue, if ever;
- adversely affect our ability to recruit patients for our clinical trials;
- solidify partnerships or strategic acquisitions that may increase the competitive landscape;
- develop or commercialize their product candidates sooner than we commercialize our own, if ever; or
- implement more effective approaches to sales, marketing and patient assistance programs and capture some of our potential market share.

Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies. Established pharmaceutical companies may also invest heavily to accelerate discovery and development of novel therapeutics or to in-license novel therapeutics that could make the product candidates that we develop obsolete. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated in our competitors. 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.

There is no guarantee that our product candidates will be able to compete with potential future products being developed by our competitors including those described under “Item 1. Business – Competition.”

Even if we obtain regulatory approval to market our product candidates, the availability and price of our competitors’ products could limit the demand and the price we are able to charge for our product candidates. We may not be able to implement our business plan if the acceptance of our product candidates is inhibited by price competition or the reluctance of physicians to switch from existing methods of treatment to our product candidates, or if physicians switch to other new drug or biologic products or choose to reserve our product candidates for use in limited circumstances.

Even if our product candidates receive marketing approval, we, or others, may subsequently discover that such product is less effective than previously believed or causes undesirable side effects that were not previously identified and our ability to market such product will be compromised.

Clinical trials of our product candidates are conducted in carefully defined subsets of patients who have agreed to enter into such clinical trials. Consequently, it is possible that our clinical trials may indicate an apparent positive effect of a product candidate that is greater than the actual positive effect, if any, or alternatively fail to identify undesirable side effects. If one or more of our product candidates receives regulatory approval, and we, or others, later discover that they are less effective than previously believed, or cause undesirable side effects, a number of potentially significant negative consequences could result, including:

- withdrawal or limitation by regulatory authorities of approvals of such product;
- seizure of the product by regulatory authorities;
- recall of the product;
- restrictions on the marketing of the product or the manufacturing process for any component thereof;
- requirement by regulatory authorities of additional warnings on the label, such as a “black box” warning or contraindication;
- requirement that we implement a REMS or create a medication guide outlining the risks of such side effects for distribution to patients;
- commitment to expensive additional safety studies prior to approval or post-marketing studies required by regulatory authorities of such product;
- the product may become less competitive;
- initiation of regulatory investigations and government enforcement actions;
- initiation of legal action against us to hold us liable for harm caused to patients; and
- harm to our reputation and resulting harm to physician or patient acceptance of our products.

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

Even if our product candidates receive marketing approval, such products may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success.

If any of our product candidates receive marketing approval, whether as single agents or in combination with other therapies, they may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. For example, current approved immunotherapies, and other cancer treatments like chemotherapy and radiation therapy, are well established in the medical community, and doctors could continue to rely on these therapies. If any of our product candidates do not achieve an adequate level of acceptance, we may not generate significant product revenues and we may not become profitable. The degree of market acceptance of any future products, if approved for commercial sale, will depend on a number of factors, including:

- efficacy and potential advantages compared to alternative treatments;
- the ability to offer our products, if approved, for sale at competitive prices;
- convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support;
- sufficient third-party coverage or reimbursement, including of combination therapies;
- adoption of a companion diagnostic and/or complementary diagnostic; and
- the prevalence and severity of any side effects.

Even if we are able to commercialize any product candidates, such products may not receive coverage or may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives, all of which would harm our business.

The legislation and regulations that govern marketing approvals, pricing and reimbursement for new drug products vary widely from country to country. Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or drug licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. In the United States, approval and reimbursement decisions are not linked directly, but there is increasing scrutiny from the Congress and regulatory authorities of the pricing of pharmaceutical products. As a result, we might obtain marketing approval for a product candidate in a

particular country, but then be subject to price regulations that delay our commercial launch of the product candidate, possibly for lengthy time periods, and negatively impact the revenues we are able to generate from the sale of the product candidate 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.

Significant uncertainty exists as to the coverage and reimbursement status of our product candidates for which we seek regulatory approval. Our ability to commercialize any drugs successfully will depend, in part, on the extent to which reimbursement for these drugs and related treatments will be available from government health administration authorities, private health insurers and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. Obtaining and maintaining adequate reimbursement for our product candidates, if approved, may be difficult. Moreover, the process for determining whether a third-party payor will provide coverage for a product may be separate from the process for setting the price of a product or for establishing the reimbursement rate that such a payor will pay for the product. Further, one payor's determination to provide coverage for a product does not assure that other payors will also provide coverage and reimbursement for our products, if they are approved, by third-party payors.

A primary trend in the healthcare industry in the United States and elsewhere is cost containment. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. Third-party payors may also seek, with respect to an approved product, additional clinical evidence, including comparative effectiveness evidence, that goes beyond the data required to obtain marketing approval. They may require such evidence to demonstrate clinical benefits and value in specific patient populations or they may call for costly pharmaceutical studies to justify coverage and reimbursement or the level of reimbursement relative to other therapies before covering our products. Third party payors may manage utilization by implementing a drug formulary, establishing different copays for different drugs or requiring a prescriber to obtain prior authorization from the relevant third-party payor before a drug will be covered for a particular patient. We expect to experience pricing pressures in connection with the sale of our product candidates due to the trend toward managed health care and additional legislative, administrative, or regulatory changes. The downward pressure on healthcare costs in general, particularly prescription drugs, has become intense and new products face increasing challenges in entering the market successfully. Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs in exchange for coverage or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold. Our ability to commercialize our product candidates successfully may be adversely affected by discounts or rebates that we are required to provide in order to ensure coverage of our products and compete in the marketplace. Accordingly, we cannot be sure that reimbursement will be available for any drug that we commercialize and, if reimbursement is available, we cannot be sure as to the level of reimbursement and whether it will be adequate. Coverage and reimbursement may impact the demand for, or the price of, any product candidate for which we obtain marketing approval. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize any product candidate for which we obtain marketing approval.

There may be significant delays in obtaining reimbursement for newly-approved drugs, and coverage may be more limited than the indications for which the drug is approved by the FDA or comparable regulatory authorities outside of the United States. Moreover, eligibility for reimbursement does not imply that any drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, regulatory approval, sale and distribution. Interim reimbursement levels for new drugs, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. Our inability to promptly obtain coverage and profitable payment rates from both government-funded and private payors for any approved drugs that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize drugs and our overall financial condition.

The market opportunities for our product candidates may be limited to those patients who are ineligible for or have failed prior treatments and may be small, and our estimates of the prevalence of our target patient populations may be inaccurate.

Cancer and autoimmune therapies are sometimes characterized as first-line, second-line, third-line and even fourth-line, and the FDA often approves new therapies initially only for last-line use. Initial approvals for new cancer and autoimmune therapies are often restricted to later lines of therapy, and in the case of cancer specifically, for patients with advanced or metastatic disease.

Our projections of both the number of people who have the diseases we are targeting, as well as the subset of people with these diseases in a position to receive our therapies, if approved, are based on our current beliefs and estimates. These estimates have been derived from a variety of sources, including scientific literature, input from key opinion leaders, patient foundations, or secondary market research databases, and may prove to be incorrect. Further, new studies may change the estimated incidence or prevalence of these diseases. The number of patients may turn out to be lower than expected. Additionally, the potentially addressable patient population for our product candidates may be limited or may not be amenable to treatment with our product candidates. Furthermore, regulators and payors may further narrow the therapy-accessible treatment population. Even if we obtain significant market share for our product candidates, because certain of the potential target populations are small, we may never achieve profitability without obtaining regulatory approval for additional indications.

Prior to a product approval, we would need to build marketing, sales and commercial compliance functions, and as a company, we have no experience in marketing, selling and distributing products or adhering to commercial compliance standards and regulations. If we are unable to establish such capabilities or enter into agreements with third parties to perform such functions, we may not be able to generate product revenue.

We currently have a small number of individuals who have capabilities to build our marketing, sales and commercial compliance functions, and we currently have no experience as a company performing such tasks. Developing an in-house marketing team, sales force and commercial compliance function will require significant capital expenditures, management resources and time and may ultimately prove to be unsuccessful. In the event we develop and deploy these capabilities, we will have to compete with other pharmaceutical and biotechnology companies to recruit, hire, train and retain personnel qualified to perform these tasks. If we fail to market and sell our approved products in compliance with applicable laws and regulations, we may be subject to investigations and/or legal review and challenges which may result in fines or other penalties as well as causing distraction and reputational harm.

In addition to establishing internal sales, marketing and distribution and commercial compliance capabilities, we may pursue collaborative arrangements regarding the sales and marketing of our products, however, there can be no assurance that we will be able to establish or maintain such collaborative arrangements, or if we are able to do so, that they will have effective sales forces. Any revenue we receive will depend upon the efforts of such third parties, which may not be successful. We may have little or no control over the marketing and sales efforts of such third parties and our revenue from product sales may be lower than if we had commercialized our product candidates ourselves. We also face competition in our search for third parties to assist us with the sales and marketing efforts of our product candidates.

There can be no assurance that we will be able to develop in-house sales and distribution capabilities or establish or maintain relationships with third-party collaborators to ensure compliance and support successful commercialization of any product in the United States or overseas.

Risks Related to Manufacturing and Supply

Our product candidates are uniquely manufactured. If we or any of our third-party manufacturers encounter difficulties in manufacturing our product candidates, our ability to provide supply of our product candidates for clinical trials or our products for patients, if approved, could be delayed or stopped, or we may be unable to maintain a commercially viable cost structure.

The manufacturing process used to produce certain of our product candidates is complex and novel and has not yet been validated for commercial production. As a result of these complexities, the cost to manufacture certain of our product candidates is potentially higher than traditional antibodies and the manufacturing process is less reliable and is more difficult to reproduce. Furthermore, our manufacturing process for certain of our product candidates has not been scaled up to commercial production. The actual cost to manufacture and process certain of our product candidates could be greater than we expect and could materially and adversely affect the commercial viability of such product candidates.

Our manufacturing process may be susceptible to logistical issues associated with the collection of materials sourced from various suppliers as well as shipment of the final product to clinical centers, manufacturing issues associated with interruptions in the manufacturing process, contamination, equipment or reagent failure, improper installation or operation of equipment, vendor or operator error, inconsistency in production batches, and variability in product characteristics. Even minor deviations from normal manufacturing processes could result in reduced production yields, lot failures, product defects, product recalls, product liability claims and other supply disruptions. If microbial, viral, or other contaminations are discovered in our product candidates or in our manufacturing facilities in which our product candidates are made, production at such manufacturing facilities may be interrupted for an extended period of time to investigate and remedy the contamination. Further, as we transition from late-stage clinical trials toward approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods, are altered along the way in an effort to optimize processes and results. Such changes carry the risk that they will not achieve these

intended objectives, and any of these changes could cause our product candidates to perform differently and affect the results of planned clinical trials or other future clinical trials.

Although we continue to optimize our manufacturing process for our antibody product candidates, doing so is a difficult and uncertain task, and there are risks associated with scaling to the level required for commercialization, including, among others, cost overruns, potential problems with process scale-up, process reproducibility, stability issues, lot consistency, and timely availability of reagents and/or raw materials. We ultimately may not be successful in transferring our in-house clinical scale production system to any commercial scale manufacturing facilities that we establish ourselves or establish at a contract manufacturing organization (“CMO”). If we are unable to adequately validate or scale-up the manufacturing process for our product candidates with our contracted CMO, we will need to transfer to another manufacturer and complete the manufacturing validation process, which can be lengthy. If we are able to adequately validate and scale-up the manufacturing process for our product candidates with a contract manufacturer, we will still need to negotiate with such contract manufacturer an agreement for commercial supply and it is not certain we will be able to come to agreement on terms acceptable to us for all product candidates. As a result, we may ultimately be unable to reduce the cost of goods for our product candidates to levels that will allow for an attractive return on investment if and when those product candidates are commercialized.

In November 2020, we entered into a long-term lease in Emeryville, CA for cGMP commercial manufacturing space. Construction of this end-to-end 83,000sqft. GMP clinical and commercial biologics manufacturing facility in (from cell line development through Drug Product fill & finish, packaging and labeling) is being commissioned for GMP manufacturing. We have never built, owned or operated a commercial manufacturing building, and there is no guarantee that we will be successful doing so.

The manufacturing process for any products that we may develop is subject to the FDA and foreign regulatory authority approval process. If we or our CMOs are unable to reliably produce products to specifications acceptable to the FDA or other regulatory authorities, we may not obtain or maintain the approvals we need to commercialize such products. Even if we obtain regulatory approval for any of our product candidates, there is no assurance that either we or our CMOs will be able to manufacture the approved product to specifications acceptable to the FDA or other regulatory authorities, to produce it in sufficient quantities to meet the requirements for the potential launch of the product, or to meet potential future demand. Any of these challenges could delay completion of clinical trials, require bridging clinical trials or the repetition of one or more clinical trials, increase clinical trial costs, delay approval of our product candidates, impair commercialization efforts, increase our cost of goods, and have an adverse effect on our business, financial condition, results of operations and growth prospects. Our future success depends on our ability to manufacture our products on a timely basis with acceptable manufacturing costs, while at the same time maintaining good quality control and complying with applicable regulatory requirements, and an inability to do so could have a material adverse effect on our business, financial condition, and results of operations. In addition, we could incur higher manufacturing costs if manufacturing processes or standards change, and we could need to replace, modify, design, or build and install unanticipated equipment, all of which would require additional capital expenditures. Specifically, because our product candidates may have a higher cost of goods than conventional therapies, the risk that coverage and reimbursement rates may be inadequate for us to achieve profitability may be greater.

We own and operate our own clinical scale manufacturing facility and infrastructure in addition to or in lieu of relying on CMOs for the manufacture of clinical supplies of our product candidates. This is costly and time-consuming.

We own and operate the manufacturing pilot plant that supplies our antibody drug substance requirements for clinical proof-of-concept and other clinical studies.

Any performance failure on the part of our existing facility could delay clinical development or marketing approval of our antibody programs.

We have given our corporate QS-21 STIMULON licensee, GSK, manufacturing rights for QS-21 STIMULON for use in their product programs. We have retained the right to manufacture QS-21 for ourselves and third parties, although no other such programs are anticipated to bring us substantial revenues in the near future, if ever. Although we have the right to secure certain quantities of QS-21 from GSK and we have some internal supply in-house and from a third-party supplier(s) and manufacturer(s), we currently do not have an alternative long-term supply partner for this adjuvant. In January 2019, we announced that the Bill & Melinda Gates Foundation awarded us a grant to develop an alternative, plant cell culture-based manufacturing process with the goal of ensuring the continuous future supply of QS-21 STIMULON adjuvant. While we are pursuing this in partnership with Phyton Biotech and Ginkgo Bioworks, there is no guarantee that we will be successful in developing a scalable process.

We also may encounter problems hiring and retaining the experienced scientific, quality-control and manufacturing personnel needed to operate our clinical and commercial manufacturing processes, which could result in delays in production or difficulties in maintaining compliance with applicable regulatory requirements.

Any problems in our manufacturing process or facilities, or that of our licensees and suppliers, could make us a less attractive collaborator for potential partners, including larger pharmaceutical companies and academic research institutions, which could limit our access to additional attractive development programs.

The FDA, the EMA and other foreign regulatory authorities may require us to submit samples of any lot of any approved product together with the protocols showing the results of applicable tests at any time. Under some circumstances, the FDA, the EMA or other foreign regulatory authorities may require that we not distribute a lot until the relevant agency authorizes its release. Slight deviations in the manufacturing process, including those affecting quality attributes and stability, may result in unacceptable changes in the product that could result in lot failures or product recalls. Lot failures or product recalls could cause us to delay product launches or clinical trials, which could be costly to us and otherwise harm our business, financial condition, results of operations and prospects. Problems in our manufacturing process could restrict our ability to meet our clinical and regulatory timelines, and market demand for our products.

We are dependent on suppliers for some of our components and materials used to manufacture our product candidates.

We currently depend on suppliers for some of the components necessary for our product candidates. We cannot be sure that these suppliers will remain in business, that they will be able to meet our supply needs, or that they will not be purchased by one of our competitors or another company that is not interested in continuing to produce these materials for our intended purpose. There are, in general, relatively few alternative sources of supply for these components. These suppliers may be unable or unwilling to meet our future demands for our clinical trials or commercial sale. Establishing additional or replacement suppliers for these components could take a substantial amount of time and it may be difficult to establish replacement suppliers who meet regulatory requirements. Any disruption in supply from a supplier or manufacturing location could lead to supply delays or interruptions which would damage our business, financial condition, results of operations and prospects. If we are able to find a replacement supplier, the replacement supplier would need to be qualified and may require additional regulatory authority approval, which could result in further delay and additional costs. While we seek to maintain adequate inventory of the materials used to manufacture our products, any interruption or delay in the supply of materials, or our inability to obtain materials from alternate sources at acceptable prices in a timely manner, could impair our ability to meet the demand of our customers and cause them to cancel orders. In addition, as part of the FDA's approval of our product candidates, we will also require FDA approval of the individual components of our process, which include the manufacturing processes and facilities of our suppliers. Our reliance on these suppliers subjects us to a number of risks that could harm our business, and financial condition, including, among other things: interruption of product candidate or commercial supply resulting from modifications to or discontinuation of a supplier's operations; delays in product shipments resulting from uncorrected defects, reliability issues, or a supplier's variation in a component; a lack of long-term supply arrangements for key components with our suppliers; inability to obtain adequate supply in a timely manner, or to obtain adequate supply on commercially reasonable terms; difficulty and cost associated with locating and qualifying alternative suppliers for our components and precursor cells in a timely manner; production delays related to the evaluation and testing of products from alternative suppliers, and corresponding regulatory qualifications; delay in delivery due to our suppliers prioritizing other customer orders over ours; and fluctuation in delivery by our suppliers due to changes in demand from us or their other customers. If any of these risks materialize, our manufacturing costs could significantly increase and our ability to meet clinical and commercial demand for our products could be impacted.

We rely on third parties for the manufacture of clinical supplies of certain of our product candidates and expect to rely on third parties for commercial supplies of any approved product candidates until our new commercial manufacturing facility is completed and qualified. This reliance on third parties increases the risk that we will not have sufficient quantities of our drug candidates or drugs or such quantities at an acceptable cost, which could delay, prevent or impair our development or commercialization efforts.

We expect to rely on third-party manufacturers for the manufacture of commercial supplies of our drug candidates until our own commercial manufacturing facility is completed and qualified. At present, we do not have long-term supply agreements with all of the vendors needed to produce our product candidates for commercial sale and we may be unable to establish such agreements with third-party manufacturers or do so on acceptable terms.

The agreements that we do have in place with our third-party manufacturers obligate us to make significant non-refundable deposits to reserve manufacturing slots prior to the receipt of marketing approval for our product candidates. Additionally, if our product candidates are approved, we will be required to make minimum purchases and will have limited ability to purchase product in excess of our forecasted needs. As a result, if product sales fall below our minimum purchase obligations, we will be obligated to purchase more product than we can successfully sell, and if product demand exceeds the amount that we can purchase from our

manufacturers, we will have to forgo some product sales unless and until we are able to manufacture commercial supplies at our own facility. Either of these events may materially harm our financial prospects. Finally, reliance on third-party manufacturers entails additional risks, including:

- reliance on the third party for regulatory compliance and quality assurance;
- the possible breach of the manufacturing agreement by the third party;
- the possible failure of the third party to manufacture our drug candidate according to our schedule, or at all, including if the third-party manufacturer gives greater priority to the supply of other drugs over our drug candidates, or otherwise does not satisfactorily perform according to the terms of the manufacturing agreement;
- staffing shortages, equipment malfunctions, power outages, natural or man-made calamities, geopolitical disputes, or other general disruptions experienced by our third-party manufacturers to their respective operations and other general problems with a multi-step manufacturing process;
- the possible misappropriation or disclosure by the third party or others of our proprietary information, including our trade secrets and know-how; and
- the possible termination or nonrenewal of the agreement by the third party at a time that is costly or inconvenient for us.

As is common in the industry, the agreements that we have in place with our third-party suppliers and manufacturers significantly limit the liability of such suppliers and manufacturers for failing to supply or manufacture, as applicable, our product candidates pursuant to the terms of our agreements, or as required by applicable regulation or law. As a result, if we suffer losses due to our suppliers or manufacturers failure to perform, we will have limited remedies available against such suppliers and manufacturers and are unlikely to be able to recover such losses from them.

Third-party manufacturers may not be able to comply with cGMP regulations or similar regulatory requirements outside of the United States. Facilities used by our third-party manufacturers must be inspected by the FDA before potential approval of the drug candidate. Similar regulations apply to manufacturers of our drug candidates for use or sale in foreign countries. Until our own commercial manufacturing facility is completed and validated, we will not control the manufacturing process and will be completely dependent on our third-party manufacturers for compliance with the applicable regulatory requirements for the commercial manufacture of our drug candidates. If our manufacturers cannot successfully manufacture material that conforms to the strict regulatory requirements of the FDA and any applicable foreign regulatory authority, they will not be able to secure the applicable approval for their manufacturing facilities. If these facilities are not approved for commercial manufacture, we may need to find alternative manufacturing facilities, which could result in delays in obtaining approval for the applicable drug candidate as alternative qualified manufacturing facilities may not be available on a timely basis or at all. In addition, our manufacturers are subject to ongoing periodic unannounced inspections by the FDA and corresponding state and foreign agencies for compliance with cGMPs and similar regulatory requirements. Failure by any of our manufacturers to comply with applicable cGMPs or other regulatory requirements could result in sanctions being imposed on us or the contract manufacturer, including fines, injunctions, civil penalties, delays, suspensions or withdrawals of approvals, operating restrictions, interruptions in supply and criminal prosecutions, any of which could significantly and adversely affect supplies of our drug candidates and have a material adverse impact on our business, financial condition and results of operations as well as cause reputational damage. Any drugs that we may develop may compete with other drug candidates and drugs for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing for us.

Our current and future dependence upon others for the commercial manufacture of our drug candidates or drugs until our own facility is completed and qualified may adversely affect our future profit margins and our ability to commercialize any drugs that receive marketing approval on a timely and competitive basis.

Risks Related to Our Reliance on Third Parties

We are dependent upon our collaborations with BMS, Gilead, Incyte and Betta Pharmaceuticals Co., Ltd. (“Betta Pharmaceuticals”) to further develop and commercialize certain of our antibody programs. If we or BMS, Gilead, Incyte or Betta Pharmaceuticals fail to perform as expected, the potential for us to generate future revenues under such collaborations could be significantly reduced, the development and/or commercialization of these antibodies may be terminated or substantially delayed, and our business could be adversely affected.

In May 2021, we entered into a License, Development and Commercialization Agreement with BMS to collaborate on the development and commercialization of our anti-TIGIT bispecific antibody program AGEN1777. Pursuant to the license agreement,

we received a non-refundable upfront cash payment of \$200.0 million and are eligible to receive up to \$1.36 billion in aggregate development, regulatory and commercial milestone payments plus tiered royalties. Additionally, we hold the option to co-fund a minority of the global development costs of products containing AGEN1777 or its derivatives, in exchange for increased tiered royalties on U.S. net sales of co-funded products. There can be no assurance that any of the development, regulatory or sales milestones will be achieved, or that we will receive any future milestone or royalty payments under the license agreement. BMS's activities will be influenced by, among other things, the efforts and allocation of resources by BMS, which we cannot control. If BMS does not perform in the manner we expect or fulfill its responsibilities in a timely manner, or at all, the clinical development, manufacturing, regulatory approval, and commercialization efforts related to the licensed antibodies could be delayed or terminated.

In addition, our license with BMS may be unsuccessful due to other factors, including, without limitation, the following:

- BMS may terminate the agreement or any individual program for convenience upon 180 days' notice;
- BMS may change the focus of its development and commercialization efforts or prioritize other programs more highly and, accordingly, reduce the efforts and resources allocated to our licensed antibodies; and
- BMS may choose not to develop and commercialize antibody products, if any, in all relevant markets or for one or more indications, if at all.

In December 2018, we entered into a series of agreements with Gilead to collaborate on the development and commercialization of up to five novel I-O therapies. Pursuant to the collaboration agreements, Gilead received (i) worldwide exclusive rights to AGEN1423, a bispecific antibody, (ii) the exclusive option to license exclusively AGEN1223, a bispecific antibody, and AGEN2373, a monospecific antibody, and (iii) the right of first negotiation for two additional, undisclosed programs. Gilead had the exclusive right to develop and commercialize AGEN1423, and we were eligible to receive potential development and commercial milestones of up to \$552.5 million in the aggregate. In November 2020, Gilead elected to return AGEN1423 to us and voluntarily terminated the license agreement effective as of February 4, 2021. In October of 2021, Gilead elected to terminate the option to license AGEN1223. The option agreement for AGEN2373 remains in place, and we are responsible for developing the program up to the option decision point, at which time Gilead may acquire exclusive rights to each program on option exercise. If Gilead exercises an option for AGEN2373, it would be required to pay an upfront option exercise fee of \$50.0 million. Following any option exercise, we would be eligible to receive additional development and commercial milestones of up to \$520.0 million in the aggregate, as well as tiered royalty payments on aggregate net sales ranging from the high single digit to mid-teen percent, subject to certain reductions under certain circumstances. We will have the right to opt-in to share Gilead's development and commercialization costs in the United States for AGEN2373 in exchange for a profit (loss) share on a 50:50 basis and revised milestone payments. There is no guarantee that we will be able to successfully advance the AGEN2373 option program to the option decision point, and, even if we do, there is no guarantee that Gilead will exercise its option. If Gilead does not pursue a licensed or optioned program, there is no guarantee that we will be able to advance any such program ourselves or with another partner.

In February 2017, we amended the terms of our collaboration agreement with Incyte to, among other things, convert the G1TR and OX40 programs from profit-share programs, where we and Incyte shared all costs and profits on a 50:50 basis, to royalty-bearing programs, where Incyte funds 100% of the costs and we are eligible for potential milestones and royalties. In addition, the profit-share programs relating to TIGIT and one undisclosed target were removed from the collaboration, with TIGIT reverting to Agenus and the undisclosed target reverting to Incyte, each with a potential 15% royalty to the other party on any global net sales. The remaining three royalty-bearing programs in the collaboration targeting TIM-3, LAG-3 and one undisclosed target remain unchanged, and there are no more profit-share programs under the collaboration. For each program in the collaboration, Incyte has exclusive rights and all decision-making authority for manufacturing, clinical development and commercialization. Accordingly, the timely and successful completion by Incyte of clinical development and commercialization activities will significantly affect the timing and amount of any royalties or milestones we may receive under the collaboration agreement. In addition, in March 2017 we transferred manufacturing responsibilities to Incyte for antibodies under that collaboration. Any delays or weaknesses in the ability of Incyte to successfully manufacture could have an adverse impact on those programs. Incyte's activities will be influenced by, among other things, the efforts and allocation of resources by Incyte, which we cannot control. If Incyte does not perform in the manner we expect or fulfill its responsibilities in a timely manner, or at all, the clinical development, manufacturing, regulatory approval, and commercialization efforts related to antibodies under the collaboration could be delayed or terminated. There can be no assurance that any of the development, regulatory or sales milestones will be achieved, or that we will receive any future milestone or royalty payments under the collaboration agreement. In September 2018, we sold to XOMA a portion of the royalties and milestones we are entitled to receive from Incyte. In October 2022, Incyte provided notice of their intent to terminate the OX40 program, effective October 2023.

In addition, our collaboration with Incyte may be unsuccessful due to other factors, including, without limitation, the following:

- Incyte may terminate the agreement or any individual program for convenience upon 12 months' notice;

- Incyte has control over the development of assets in the collaboration;
- Incyte may change the focus of its development and commercialization efforts or prioritize other programs more highly and, accordingly, reduce the efforts and resources allocated to our collaboration;
- Incyte may choose not to develop and commercialize antibody products, if any, in all relevant markets or for one or more indications, if at all; and
- If Incyte is acquired during the term of our collaboration, the acquirer may have competing programs or different strategic priorities that could cause it to reduce its commitment to our collaboration.

If Incyte terminates our collaboration agreement, we may need to raise additional capital and may need to identify and come to agreement with another collaboration partner to advance certain of our antibody programs. Even if we are able to find another partner, this effort could cause delays in our timelines and/or additional expenses, which could adversely affect our business prospects and the future of our antibody product candidates under the collaboration.

In June 2020, we entered into a license and collaboration agreement with Betta Pharmaceuticals to collaborate on the development and commercialization of balstilimab and zalifrelimab in greater China. Pursuant to the license and collaboration agreement, Betta Pharmaceuticals received an exclusive license to develop, manufacture and commercialize zalifrelimab and balstilimab in all fields (other than intravesical delivery) in greater China. Under the agreement, Betta Pharmaceuticals is responsible for all of the development, regulatory approval, manufacturing and commercialization costs in greater China. As part of the collaboration, Betta Pharma made an upfront cash payment of \$15.0 million and agreed to make up to \$100.0 million in aggregate milestone payments plus tiered royalties on net sales of zalifrelimab and balstilimab. Royalties range from mid-single digit to low-twenties percent, subject to certain reductions under certain circumstances. Accordingly, the timely and successful completion by Betta Pharmaceuticals of development, regulatory approval, manufacturing and commercialization activities will significantly affect the timing and amount of any milestones or royalties we may receive from Betta Pharmaceuticals. Betta Pharmaceuticals' activities will be influenced by, among other things, the efforts and allocation of resources by Betta Pharmaceuticals, which we cannot control.

In addition, our collaboration with Betta Pharmaceuticals may be unsuccessful due to other factors, including, without limitation, that Betta Pharmaceuticals:

- may terminate any of the license and collaboration agreement for convenience upon 90 days' notice;
- has control over the development, regulatory approval, manufacturing and commercialization of balstilimab and zalifrelimab in greater China;
- may change the focus of its business efforts or prioritize other programs more highly and, accordingly, reduce the efforts and resources allocated to balstilimab and zalifrelimab; and
- may choose not to develop and commercialize balstilimab and zalifrelimab in all markets within greater China or for one or more indications, if at all.

Additionally, the US-China relationship has deteriorated in recent years and, further deterioration may impact the ability of Agenus and Betta Pharmaceuticals to successfully collaborate.

Failure to enter into and/or maintain additional significant licensing, distribution and/or collaboration agreements in a timely manner and on favorable terms to us may hinder or cause us to cease our efforts to develop and commercialize our product candidates, increase our development timelines, and/or increase our need to rely on partnering or financing mechanisms, such as sales of debt or equity securities, to fund our operations and continue our current and anticipated programs. Even if we enter into and maintain such agreements, they may not prove successful, and/or we may not receive significant payments from agreements.

Part of our strategy is to develop and commercialize many of our product candidates by continuing or entering into arrangements with academic, government, or corporate collaborators and licensees. Our success depends on our ability to negotiate such agreements on favorable terms and on the success of the other parties in performing research, pre-clinical and clinical testing, completing regulatory applications, and commercializing product candidates. Our research, development, regulatory and commercialization efforts with respect to antibody candidates from our technology platforms are, in part, contingent upon the participation of institutional and corporate collaborators. For example, in February 2015, we began a broad collaboration with Incyte to pursue the discovery and development of antibodies, in December 2018 we entered into a partnership with Gilead relating to five of our antibody programs and in May 2021 we entered into a license agreement with BMS relating to our anti-TIGIT bispecific antibody program. Disagreements or the failure of either party to perform satisfactorily could have an adverse impact on these programs.

In December 2022, we terminated our collaboration agreement with Recepta for the development of balstilimab and zalifrelimab antibodies in certain South American countries. As part of that termination, Agenus and Recepta settled lawsuits that had been pending in the United States and Brazil related to disputes arising from the companies' collaboration agreement and intellectual property rights granted under the collaboration agreement were returned to Agenus.

Our ability to advance our antibody programs depends in part on such collaborations. In addition, from time to time we engage in efforts to enter into licensing, distribution and/or collaboration agreements with one or more pharmaceutical or biotechnology companies to assist us with development and/or commercialization of our other product candidates. Any licensing, distribution and/or collaborations agreements, we enter into, including those with BMS, Gilead and Incyte, may pose a number of risks, including the following:

- collaborators have significant discretion in determining the efforts and resources that they will apply;
- collaborators may not perform their obligations as expected;
- 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 or license arrangements based on clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors, such as a strategic transaction that may divert resources or create competing priorities;
- 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;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products and product candidates if the collaborators believe that the competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the commercialization of our product candidates;
- collaborators may fail to comply with applicable regulatory requirements regarding the development, manufacture, distribution or marketing of a product candidate or product;
- collaborators 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;
- disagreements with collaborators, including disagreements over proprietary rights, contract interpretation or the preferred course of development, might cause delays or terminations 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;
- collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- if a collaborator of ours is involved in a business combination, the collaborator might deemphasize or terminate the development or commercialization of any product candidate licensed to it by us; and
- collaborations may be terminated by the collaborator, and, if terminated, we could be required to raise additional capital to pursue further development or commercialization of the applicable product candidates.

If our current or future collaborations do not result in the successful discovery, development, approval and commercialization of products or if one of our collaborators terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under the collaboration. If we do not receive the funding we expect under these agreements, our development of our technology and product candidates could be delayed and we may need additional resources to develop product candidates and our technology. All of the risks relating to product development, regulatory approval and commercialization described herein also apply to the activities of our therapeutic collaborators.

Additionally, if one of our collaborators, such as BMS, Incyte or Gilead, terminates its agreement with us, we may find it more difficult to attract new collaborators and our reputation in the business and financial communities could be adversely affected.

Collaborations are complex and time-consuming to negotiate, document and execute. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators. We face significant competition in seeking appropriate collaborators. Our ability to reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors.

If we are unable to reach agreements with suitable collaborators on a timely basis, on acceptable terms, or at all, we may have to curtail the development of a product candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund 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 collaborations or 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, bring them to market and generate revenue from sales of drugs or continue to develop our technology, and our business may be materially and adversely affected.

We rely on third parties to conduct our clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines or comply with regulatory requirements, we may not be able to obtain regulatory approval of or commercialize any potential product candidates.

We depend upon third parties, including independent investigators, to conduct our clinical trials under agreements with universities, medical institutions, CROs, strategic partners and others. Such reliance obligates us to negotiate budgets and contracts with CROs and trial sites, which may result in delays to our development timelines and increased costs.

We rely heavily on third parties over the course of our clinical trials, and, as a result, have limited control over the clinical investigators and limited visibility into their day-to-day activities, including with respect to their compliance with the approved clinical protocol. Nevertheless, we are responsible for ensuring that each of our trials is conducted in accordance with the applicable protocol, legal and regulatory requirements and scientific standards, and our reliance on third parties does not relieve us of our regulatory responsibilities. We and these third parties are required to comply with GCP requirements, which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities for product candidates in clinical development. Regulatory authorities enforce these GCP requirements through periodic inspections of trial sponsors, clinical investigators and trial sites. If we or any of these third parties fail to comply with applicable GCP requirements, the clinical data generated in our clinical trials or at a particular site may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to suspend or terminate these trials or sites, or perform additional nonclinical studies or clinical trials before approving our marketing applications. We cannot be certain that, upon inspection, such regulatory authorities will determine that any of our clinical trials comply with the GCP requirements. In addition, our clinical trials must be conducted with biologic product produced under cGMP requirements and may require a large number of patients.

Our failure or any failure by these third parties to comply with these regulations or to recruit a sufficient number of patients may require us to repeat clinical trials, which would delay the regulatory approval process and increase the costs of such trials. Moreover, our business may be implicated if any of these third parties violates federal or state fraud and abuse or false claims laws and regulations or healthcare privacy and security laws.

The persons engaged by third parties conducting our clinical trials are not our employees and, except for remedies that may be available to us under our agreements with such third parties, we cannot control whether or not such persons devote sufficient time and resources to our ongoing pre-clinical and clinical programs. These third parties may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other product development activities, which could affect their performance on our behalf. If these third parties do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to complete development of, obtain regulatory approval of or successfully commercialize our product candidates. As a result, our financial results and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenue could be delayed.

If any of our relationships with these third-party CROs or others terminate, we may not be able to enter into arrangements with alternative CROs or other third parties or to do so on commercially reasonable terms. Switching or adding additional CROs involves additional cost and requires management time and focus. In addition, there is a natural transition period when a new CRO begins work. As a result, delays may occur, which can materially impact our ability to meet our desired clinical development timelines. Though we carefully manage our relationships with our CROs as we are required to do as part of our sponsor oversight, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition and prospects.

Risks Related to Government Regulations

The regulatory approval process for our product candidates in the United States, European Union and other jurisdictions is currently uncertain and will be lengthy, time-consuming and inherently unpredictable and we may experience significant delays in the clinical development and regulatory approval, if any, of our product candidates.

The research, testing, manufacturing, labeling, approval, selling, import, export, marketing and distribution of drug products, including biologics, are subject to extensive regulation by the FDA in the United States and regulatory authorities in other jurisdictions. We are not permitted to market any biological product in the United States for commercial use until we receive a biologics license from the FDA. Although we submitted and had accepted for filing the BLA for balsilimab, we subsequently voluntarily withdrew such application following a competitor's full approval. As a result, we have not submitted a BLA for any product candidate that was approved by the FDA. Even after submission of a BLA for one or more of our product candidates, we expect the novel nature of our product candidates to create further challenges in obtaining regulatory approval. Accordingly, the regulatory approval pathway for our product candidates may be uncertain, complex, expensive and lengthy, and we may never obtain regulatory approval for our product candidates.

The FDA may also require a panel of experts, referred to as an Advisory Committee, to deliberate on the adequacy of the safety and efficacy data to support approval. The opinion of the Advisory Committee, although not binding, may have a significant impact on our ability to obtain approval of any product candidates that we develop based on the completed clinical trials.

The FDA may disagree with our regulatory plan and we may fail to obtain regulatory approval of our product candidates.

Although the regulatory framework for approving immunotherapy products is evolving, the general approach for FDA approval of a new biologic or drug has historically been to provide dispositive data from two well-controlled, Phase 3 clinical trials of the relevant biologic or drug in the relevant patient population. Phase 3 clinical trials typically involve hundreds of patients, have significant costs and take years to complete. We intend to utilize an accelerated approval approach for our product candidates given the limited alternatives for cancer treatments, but the FDA may not agree with our plans.

In addition, our clinical trial results may also not support approval of our product candidates. Our product candidates could fail to receive regulatory approval for many reasons, including the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that our product candidates are safe and effective for any of their proposed indications;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;
- we may be unable to demonstrate that our product candidates' clinical and other benefits outweigh their safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from nonclinical studies or clinical trials;
- the data collected from clinical trials of our product candidates may be deemed by the FDA or comparable foreign regulatory authorities to be insufficient to support the submission of a BLA or other comparable submission in foreign jurisdictions or to obtain regulatory approval in the United States or elsewhere;
- the FDA or comparable foreign regulatory authorities may fail to approve or find deficiencies with the manufacturing processes and controls or facilities of third-party manufacturers with which we contract for clinical and commercial supplies or any facilities that we may operate in the future; and

- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner that could render our clinical data insufficient for approval.

The FDA, the EMA and other regulatory authorities may implement additional regulations or restrictions on the development and commercialization of our product candidates, which may be difficult to predict.

The FDA, the EMA and regulatory authorities in other countries have each expressed interest in further regulating biotechnology products, such as antibodies, adjuvants and adoptive cell therapies. Agencies at both the federal and state level in the United States, as well as the U.S. Congressional committees and other governments or governing agencies, have also expressed interest in further regulating the biotechnology industry. Such action may delay or prevent commercialization of some or all of our product candidates. Adverse developments in clinical trials of antibodies, vaccine adjuvants or adoptive cell therapies products may cause the FDA or other oversight bodies to change the requirements for approval of any of our product candidates. Similarly, the EMA governs the development of antibodies, vaccine adjuvants and adoptive cell therapies in the European Union and may issue new guidelines concerning the development and marketing authorization for such products and require that we comply with these new guidelines. These regulatory review agencies and committees and the new requirements or guidelines they promulgate may lengthen the regulatory review process, require us to perform additional studies or trials, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of our product candidates or lead to significant post-approval limitations or restrictions. As we advance our product candidates, we will be required to consult with these regulatory agencies and comply with applicable requirements and guidelines. If we fail to do so, we may be required to delay or discontinue development of such product candidates. These additional processes may result in a review and approval process that is longer than we otherwise would have expected. Delays as a result of an increased or lengthier regulatory approval process or further restrictions on the development of our product candidates can be costly and could negatively impact our ability to complete clinical trials and commercialize our current and future product candidates in a timely manner, if at all.

Breakthrough Therapy Designation or Fast Track Designation by the FDA, even if granted for any of our product candidates, may not lead to a faster development, regulatory review or approval process, and it does not increase the likelihood that any of our product candidates will receive marketing approval in the United States.

We may seek a Breakthrough Therapy Designation ("BTD") for some of our product candidates. A breakthrough therapy is defined as a therapy that is intended, alone or in combination with one or more other therapies, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the therapy may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For therapies that have been designated as breakthrough therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens. Therapies designated as breakthrough therapies by the FDA may also be eligible for priority review and accelerated approval. Designation as a breakthrough therapy is within the discretion of the FDA. Accordingly, even if we believe one of our product candidates meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of a BTD for a product candidate may not result in a faster development process, review or approval compared to therapies considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, even if one or more of our product candidates qualify as breakthrough therapies, the FDA may later decide that such product candidates no longer meet the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

If a therapy is intended for the treatment of a serious or life-threatening condition and the therapy demonstrates the potential to address unmet medical needs for this condition, the therapy sponsor may apply for Fast Track Designation ("FTD"). The FDA has broad discretion whether or not to grant this designation, so even if we believe a particular product candidate is eligible for this designation, we cannot assure our stockholders that the FDA would decide to grant it. We may not experience a faster development process, review or approval compared to conventional FDA procedures for the product candidate for which we have received, or may receive in the future, FTD. The FDA may withdraw FTD if it believes that the designation is no longer supported by data from our clinical development program. FTD alone does not guarantee qualification for the FDA's priority review procedures.

We received FTD for investigation of balstilimab in combination with zalifrelimab for the treatment of patients with relapsed or refractory metastatic cervical cancer and balstilimab alone for the treatment of cervical cancer, and we intend to apply for such designation for our other product candidates in the future. The FDA subsequently determined it was no longer appropriate to review the BLA for balstilimab (alone) for accelerated approval in view of its grant of full approval to pembrolizumab and recommended that we withdraw our BLA. We subsequently made a strategic decision to withdraw our BLA for balstilimab (alone). The decision to withdraw the BLA does not change the development plans for balstilimab combinations, including plans for balstilimab in combination with botensilimab, our Fc-enhanced CTLA-4 antibody.

We may seek priority review designation for one or more of our other product candidates, but we might not receive such designation, and even if we do, such designation may not lead to a faster development or regulatory review or approval process.

If the FDA determines that a product candidate offers a treatment for a serious condition and, if approved, the product would provide a significant improvement in safety or effectiveness, the FDA may designate the product candidate for priority review. A priority review designation means that the goal for the FDA to review an application is six months, rather than the standard review period of ten months. We may request priority review for our product candidates. The FDA has broad discretion with respect to whether or not to grant priority review status to a product candidate, so even if we believe a particular product candidate is eligible for such designation or status, the FDA may decide not to grant it. Moreover, a priority review designation does not necessarily result in expedited development or regulatory review or approval process or necessarily confer any advantage with respect to approval compared to conventional FDA procedures. Receiving priority review from the FDA does not guarantee approval within the six-month review cycle or at all.

We may not be able to obtain or maintain orphan drug designations from the FDA for our current and future product candidates, as applicable.

Our strategy includes filing for orphan drug designation where available for our product candidates, but thus far, our applications for orphan drug designation with respect to balstilimab and zalifrelimab have been rejected.

Under the Orphan Drug Act, the FDA may grant orphan drug designation to a drug or biologic intended to treat a rare disease or condition, which is defined as one occurring in a patient population of fewer than 200,000 in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug or biologic will be recovered from sales in the United States. In the United States, orphan drug designation entitles a party to financial incentives, such as opportunities for grant funding toward clinical trial costs, tax advantages and user-fee waivers. In addition, if a product that has orphan drug designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan drug exclusivity, which means that the FDA may not approve any other applications, including a full new drug application, or NDA, or BLA, to market the same drug or biologic for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity or where the original manufacturer is unable to assure sufficient product quantity.

In addition, exclusive marketing rights in the United States may be limited if we seek approval for an indication broader than the orphan-designated indication or may be lost if the FDA later determines that the request for designation was materially defective or if we are unable to assure sufficient quantities of the product to meet the needs of patients with the orphan-designated disease or condition. Further, even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different drugs with different active moieties may receive and be approved for the same condition, and only the first applicant to receive approval will receive the benefits of marketing exclusivity. Even after an orphan-designated product is approved, the FDA can subsequently approve a later drug with the same active moiety for the same condition if the FDA concludes that the later drug is clinically superior if it is shown to be safer, more effective or makes a major contribution to patient care. Orphan drug designation neither shortens the development time or regulatory review time of a drug, nor gives the drug any advantage in the regulatory review or approval process. In addition, while we may again seek orphan drug designation for our product candidates, we may never receive such designations.

Our relationships with healthcare providers and physicians and third-party payors will be subject to applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which could expose us to investigations, litigation, criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.

Healthcare providers, physicians and third-party payors in the United States and elsewhere play a primary role in the recommendation and prescription of pharmaceutical products. Arrangements with third-party payors and customers can expose pharmaceutical manufactures to broadly applicable fraud and abuse and other healthcare laws and regulations, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act (the "FCA"), which may constrain the business or financial arrangements and relationships through which such companies sell, market and distribute pharmaceutical products. In particular, the promotion, sales and marketing of healthcare items and services, as well as certain business arrangements in the healthcare industry, are subject to extensive laws designed to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, structuring and commission(s), certain customer incentive programs and other business arrangements generally. Activities subject to these laws also involve the improper use of information obtained in the course of patient recruitment for clinical trials. The applicable federal, state and foreign healthcare laws and regulations laws that may affect our ability to operate include, but are not limited to:

- the federal Anti-Kickback Statute, which prohibits, among other things, knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce, or in return for, either the referral of an individual, or the purchase, lease, order or recommendation of any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs. A person or entity can be found guilty of violating the statute without actual knowledge of the statute or specific intent to violate it. In addition, a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the FCA. The Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers, and formulary managers on the other. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution;
- federal civil and criminal false claims laws and civil monetary penalty laws, including the FCA, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, false or fraudulent claims for payment to, or approval by, Medicare, Medicaid, or other federal healthcare programs, knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim or an obligation to pay or transmit money to the federal government, or knowingly concealing or knowingly and improperly avoiding, decreasing or concealing an obligation to pay money to the federal government. Manufacturers can be held liable under the FCA even when they do not submit claims directly to government payors if they are deemed to “cause” the submission of false or fraudulent claims. The FCA also permits a private individual acting as a “whistleblower” to bring actions on behalf of the federal government alleging violations of the FCA and to share in any monetary recovery;
- the federal anti-inducement law, prohibits, among other things, the offering or giving of remuneration, which includes, without limitation, any transfer of items or services for free or for less than fair market value (with limited exceptions), to a Medicare or Medicaid beneficiary that the person knows or should know is likely to influence the beneficiary’s selection of a particular supplier of items or services reimbursable by a federal or state governmental program;
- federal laws, including the Medicaid Drug Rebate Program, that require pharmaceutical manufacturers to report certain calculated product prices to the government or provide certain discounts or rebates to government authorities or private entities, often as a condition of reimbursement under government healthcare programs;
- the federal Health Insurance Portability and Accountability Act of 1996 (“HIPAA”), which created new federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g., public or private) and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity can be found guilty of violating HIPAA without actual knowledge of the statute or specific intent to violate it;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 (“HITECH”), and their respective implementing regulations, which impose, among other things, requirements on certain covered healthcare providers, health plans, and healthcare clearinghouses as well as their respective business associates that perform services for them that involve the use or disclosure of, individually identifiable health information, relating to the privacy, security and transmission of individually identifiable health information without appropriate authorization. HITECH also created new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys’ fees and costs associated with pursuing federal civil actions;
- the federal Physician Payment Sunshine Act, created under the Patient Protection and Affordable Care Act, and its implementing regulations, which require manufacturers of drugs, devices, biologicals and medical supplies for which payment is available under Medicare, Medicaid or the Children’s Health Insurance Program (with certain exceptions) to report annually to the United States Department of Health and Human Services (“HHS”), information related to payments or other “transfers of value” made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, and other categories of healthcare providers, as well as ownership and investment interests held by physicians and their immediate family members;
- the U.S. Federal Food, Drug, and Cosmetic Act, which prohibits, among other things, the adulteration or misbranding of drugs, biologics and medical devices;
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers; and

- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and may be broader in scope than their federal equivalents; state and foreign laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government or otherwise restrict payments that may be made to healthcare providers; state and foreign laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; and state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

The distribution of pharmaceutical products is subject to additional requirements and regulations, including extensive record-keeping, licensing, storage and security requirements intended to prevent the unauthorized sale of pharmaceutical products.

The scope and enforcement of each of these laws is uncertain and subject to rapid change in the current environment of healthcare reform, especially in light of the lack of applicable precedent and regulations. Federal and state enforcement bodies have recently increased their scrutiny of interactions between healthcare companies and healthcare providers, which has led to a number of investigations, prosecutions, convictions and settlements in the healthcare industry. Ensuring business arrangements comply with applicable healthcare laws, as well as responding to possible investigations by government authorities, can be time- and resource-consuming and can divert a company's financial resources and management's attention away from the business.

On January 31, 2019, the HHS and HHS Office of Inspector General proposed an amendment to one of the existing Anti-Kickback Statute safe harbors (42 C.F.R. 1001.952(h)) which would prohibit certain pharmaceutical manufacturers from offering rebates to pharmacy benefit managers ("PBMs"), in the Medicare Part D and Medicaid managed care programs. The proposed amendment would remove protection for "discounts" from Anti-Kickback enforcement action and would include criminal and civil penalties for knowingly and willfully offering, paying, soliciting, or receiving remuneration to induce or reward the referral of business reimbursable under federal health care programs. At the same time, HHS also proposed to create a new safe harbor to protect point-of-sale discounts that drug manufacturers provide directly to patients and adds another safe harbor to protect certain administrative fees paid by manufacturers to PBMs. The revisions to the federal Anti-Kickback regulations referenced above were initially scheduled to take effect in 2022 but have now been delayed to 2027 certain Congressional actions signed into law by President Biden.

The failure to comply with any of these laws or regulatory requirements subjects entities to possible legal or regulatory action. Depending on the circumstances, failure to meet applicable regulatory requirements can result in civil, criminal and administrative penalties, damages, fines, disgorgement, individual imprisonment, possible exclusion from participation in federal and state funded healthcare programs, contractual damages and the curtailment or restricting of our operations, as well as additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws. Any action for violation of these laws, even if successfully defended, could cause a pharmaceutical manufacturer to incur significant legal expenses and divert management's attention from the operation of the business. Prohibitions or restrictions on sales or withdrawal of future marketed products could materially affect business in an adverse way.

We have adopted and revised our code of business conduct and ethics which we review and update on a periodic basis, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent inappropriate conduct 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. Efforts to ensure that our business arrangements will comply with applicable healthcare laws may involve substantial costs. It is possible that governmental and enforcement authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law interpreting applicable fraud and abuse or other healthcare laws and 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 civil, criminal and administrative penalties, damages, disgorgement, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations. In addition, the approval and commercialization of any of our product candidates outside the United States will also likely subject us to foreign equivalents of the healthcare laws mentioned above, among other foreign laws.

Even if we receive regulatory approval of any product candidates or therapies, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our product candidates.

If any of our product candidates are approved, they will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, export, import, conduct of post-marketing studies and submission of safety, efficacy and other post-market information, including both federal and state requirements in the United States and requirements of comparable foreign regulatory authorities. In addition, we will be subject to continued compliance with cGMP and GCP requirements for any clinical trials that we conduct post-approval.

Manufacturers and manufacturers' facilities are required to comply with extensive FDA, and comparable foreign regulatory authority requirements, including ensuring that quality control and manufacturing procedures conform to cGMP regulations. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance with cGMP and adherence to commitments made in any BLA, other marketing application, and previous responses to inspection observations. Accordingly, we and others with whom we work must continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, production and quality control.

Any regulatory approvals that we receive for our product candidates may be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 clinical trials and surveillance to monitor the safety and efficacy of the product candidate. The FDA may also require a risk evaluation and mitigation strategies, or REMS, program as a condition of approval of our product candidates, which could entail requirements for long-term patient follow-up, a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. In addition, if the FDA or a comparable foreign regulatory authority approves our product candidates, we will have to comply with requirements including submissions of safety and other post-marketing information and reports and registration.

The FDA may impose consent decrees or withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with our product candidates, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of our products, withdrawal of the product from the market or voluntary or mandatory product recalls;
- fines, warning letters or holds on clinical trials;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us or suspension or revocation of license approvals;
- product seizure or detention or refusal to permit the import or export of our product candidates; and
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising, and promotion of products that are in development, as well as those placed on the market. Products may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses and a company that is found to have improperly promoted off-label uses may be subject to significant liability. The policies of the FDA and of other regulatory authorities may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained which would adversely affect our business, prospects and ability to achieve or sustain profitability.

We also cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. For example, policy changes by the new presidential administration may impact our business and industry. The previous administration took several executive actions imposing burdens on, or otherwise materially delaying, the FDA's ability to engage in routine regulatory and oversight activities, such as implementing statutes through rulemaking, issuance of guidance and review and approval of marketing applications. While the new administration has revoked a number of the executive orders imposing these burdens or delays, it is difficult to predict what executive actions the new administration may implement, and the extent to which such action may impact the FDA's ability to exercise its regulatory

authority. If any executive actions impose constraints on FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

Healthcare insurance coverage and reimbursement may be limited or unavailable in certain market segments for our product candidates, if approved, which could make it difficult for us to sell any product candidates or therapies profitably.

The success of our product candidates, if approved, depends on the availability of adequate coverage and reimbursement from third-party payors. In addition, because our product candidates represent new approaches to the treatment of the diseases they target, we cannot be sure that coverage and reimbursement will be available for, or accurately estimate the potential revenue from, our product candidates or assure that coverage and reimbursement will be available for any product that we may develop.

Patients who are provided medical treatment for their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Adequate coverage and reimbursement from governmental healthcare programs, such as Medicare and Medicaid, and commercial payors are critical to new product acceptance.

Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which drugs and treatments they will cover and the amount of reimbursement. Coverage and reimbursement by a third-party payor may depend upon a number of factors, including the third-party payor's determination that use of a product is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

In the United States, no uniform policy of coverage and reimbursement for products exists among third-party payors. As a result, obtaining coverage and reimbursement approval of a product from a government or other third-party payor is a time-consuming and costly process that could require us to provide to each payor supporting scientific, clinical and cost-effectiveness data for the use of our products on a payor-by-payor basis, with no assurance that coverage and adequate reimbursement will be obtained. Even if we obtain coverage for a given product, the resulting reimbursement payment rates might not be adequate for us to achieve or sustain profitability or may require co-payments that patients find unacceptably high. Further, even if one payor provides coverage for a given product, other payors may not provide coverage for that product. Additionally, third-party payors may not cover, or provide adequate reimbursement for, long-term follow-up evaluations required following the use of product candidates. Patients are unlikely to use our product candidates unless coverage is provided, and reimbursement is adequate to cover a significant portion of the cost of our product candidates. Because our product candidates may have a higher cost of goods than conventional therapies, and may require long-term follow-up evaluations, the risk that coverage and reimbursement rates may be inadequate for us to achieve profitability may be greater. There is significant uncertainty related to insurance coverage and reimbursement of newly approved products. It is difficult to predict at this time what third-party payors will decide with respect to the coverage and reimbursement for our product candidates.

If we obtain appropriate approval in the future to market any of our current product candidates in the United States, we may be required to provide discounts or rebates under government healthcare programs or to certain government and private purchasers in order to obtain coverage under federal healthcare programs such as Medicaid. Participation in such programs may require us to track and report certain drug prices. We may be subject to fines and other penalties if we fail to report such prices accurately.

Moreover, increasing efforts by governmental and third-party payors in the United States and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for newly approved products and, as a result, they may not cover or provide adequate payment for our product candidates. There has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient support programs, and reform government program reimbursement methodologies for drugs. Since Vermont passed the first state drug price transparency law in 2016, more than a dozen states have enacted and implemented similar laws. State-level transparency legislation shines light on drug pricing by requiring manufacturers and other supply chain entities such as prescription drug benefit managers (PBMs), health plans, and wholesalers to provide information on drug pricing. For example, in October 2017, California passed legislation requiring pharmaceutical manufacturers to announce planned drug price increases. While this legislation does not

directly affect drug prices, it puts further pressure on pharmaceutical manufacturers in setting prices. Oregon has passed a similar law, requiring pharmaceutical manufacturers to disclose cost components, and other states are likely to follow. At the state level, legislatures are increasingly passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. We expect to experience pricing pressures in connection with the sale of any of our product candidates due to the trend toward managed healthcare, the increasing influence of health maintenance organizations, cost containment initiatives and additional legislative changes.

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

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

In the United States, there have been and continue to be a number of legislative initiatives to contain healthcare costs. For example, in March 2010, the Patient Protection and Affordable Care Act (“ACA”), was passed, which substantially changes the way healthcare is financed by both governmental and private insurers, and significantly impacts the U.S. pharmaceutical industry. The ACA, among other things, subjects biological products to potential competition by lower-cost biosimilars, addresses a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected, increases the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extends the rebate program to individuals enrolled in Medicaid managed care organizations, establishes annual fees and taxes on manufacturers of certain branded prescription drugs, and creates a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% (increased to 70% pursuant to the Bipartisan Budget Act of 2018, effective as of 2019) point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer’s outpatient drugs to be covered under Medicare Part D.

Beyond the ACA, there have been ongoing health care reform efforts, including a number of recent actions. Some recent healthcare reform efforts have sought to address certain issues related to the COVID-19 pandemic, including an expansion of telehealth coverage under Medicare, accelerated or advanced Medicare payments to healthcare providers and payments to providers for COVID-19-related expenses and lost revenues. Other reform efforts affect pricing or payment for drug products, which was a focus of the Trump Administration. For example, in May of 2018, President Trump and the Secretary of HHS released a “blueprint” for lowering prescription drug prices and out-of-pocket costs, which contained proposals to increase manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products and reduce the out of pocket costs of product candidates paid by consumers. Subsequent to the ACA, the Medicaid Drug Rebate Program was subject to statutory and regulatory changes and the discount that manufacturers of Medicare Part D brand name drugs must provide to Medicare Part D beneficiaries during the coverage gap increased from 50% to 70%. A number of regulations were issued in late 2020 and early 2021, some of which have been and may continue to be subject to scrutiny and legal challenge. For example, courts temporarily enjoined a new “most favored nation” payment model for select drugs covered under Medicare Part B that was to take effect on January 1, 2021 and would have limited payment based on international drug price and CMS subsequently indicated that the rule would not be implemented without further rulemaking.

The nature and scope of health care reform remains uncertain. The Department of Justice under the Biden administration informed the Supreme Court in connection with case *Texas v. Azar*, that the government no longer takes the position that the individual mandate is unconstitutional and cannot be severed from the rest of the ACA. President Biden temporarily halted implementation of new rules issued immediately prior to the transition that had not yet taken effect (which included a number of health care reforms) to allow for review by the new administration. By Executive Order, President Biden directed federal agencies to reconsider rules and other policies that limit Americans’ access to health care and consider actions that will protect and strengthen that access. With respect to prescription drugs specifically, President Biden supported reforms to lower drug prices during his campaign for the presidency. The American Rescue Plan Act of 2021, comprehensive COVID-19 relief legislation recently enacted under the Biden administration, includes a number of healthcare-related provisions, such as support to rural health care providers, increased tax subsidies for health insurance purchased through insurance exchange marketplaces, financial incentives to states to expand Medicaid programs and elimination of the Medicaid drug rebate cap effective in 2024.

Moreover, on May 30, 2018, the Right to Try Act, was signed into law. The law, among other things, provides a federal framework for certain patients to access certain investigational new drug products that have completed a Phase I clinical trial and that

are undergoing investigation for FDA approval. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA permission under the FDA expanded access program. There is no obligation for a drug manufacturer to make its drug products available to eligible patients as a result of the Right to Try Act, but the manufacturer must develop an internal policy and respond to patient requests according to that policy. We expect that additional foreign, federal and state healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in limited coverage and reimbursement and reduced demand for our products, once approved, or additional pricing pressures.

These laws, and future state and federal healthcare reform measures may be adopted in the future, any of which may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any of our product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate is prescribed or used.

European Union drug marketing and reimbursement regulations may materially affect our ability to market and receive coverage for our products in the European member states.

We intend to seek approval to market our product candidates in both the United States and in selected foreign jurisdictions. If we obtain approval in one or more foreign jurisdictions for our product candidates, we will be subject to rules and regulations in those jurisdictions. In some foreign countries, particularly those in the European Union, the pricing of pharmaceutical products is subject to governmental control and other market regulations which could put pressure on the pricing and usage of our product candidates. In these countries, pricing negotiations with governmental authorities can take considerable time after obtaining marketing approval of a product candidate. In addition, market acceptance and sales of our product candidates will depend significantly on the availability of adequate coverage and reimbursement from third-party payors for our product candidates and may be affected by existing and future healthcare reform measures.

Much like the Anti-Kickback Statute prohibition in the United States, the provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is also prohibited in the European Union. The provision of benefits or advantages to physicians is governed by the national anti-bribery laws of European Union Member States. Infringement of these laws could result in substantial fines and imprisonment.

Payments made to physicians in certain European Union Member States must be publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization and/or the regulatory authorities of the individual European Union Member States. These requirements are provided in the national laws, industry codes or professional codes of conduct, applicable in the European Union Member States. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

In addition, in most foreign countries, including the European Economic Area, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing and reimbursement vary widely from country to country. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. Reference pricing used by various European Union member states and parallel distribution, or arbitrage between low-priced and high-priced member states, can further reduce prices. A member state may approve a specific price for the medicinal product, or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. In some countries, we may be required to conduct a clinical trial or other studies that compare the cost-effectiveness of any of our product candidates to other available therapies in order to obtain or maintain reimbursement or pricing approval. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products. Historically, products launched in the European Union do not follow price structures of the United States and generally prices tend to be significantly lower. Publication of discounts by third-party payors or authorities may lead to further pressure on the prices or reimbursement levels within the country of publication and other countries. If pricing is set at unsatisfactory levels or if reimbursement of our products is unavailable or limited in scope or amount, our revenues from sales by us or our strategic partners and the potential profitability of any of our product candidates in those countries would be negatively affected.

European data collection is governed by restrictive regulations governing the use, processing, and cross-border transfer of personal information.

The collection and use of personal health data in the European Union ("EU"), was previously governed by the provisions of the Data Protection Directive, which has been replaced by the General Data Protection Regulation 2016/679 ("GDPR") as of May 2018.

The GDPR imposes a broad range of strict requirements on companies subject to the GDPR, such as us, including requirements relating to having legal bases for processing personal information relating to identifiable individuals and transferring such information outside the European Economic Area, (“EEA”), including to the United States, providing details to those individuals regarding the processing of their personal information, keeping personal information secure, having data processing agreements with third parties who process personal information, responding to individuals’ requests to exercise their rights in respect of their personal information, reporting security breaches involving personal data to the competent national data protection authority and affected individuals, appointing data protection officers, conducting data protection impact assessments, and record-keeping. The GDPR substantially increases the penalties to which we could be subject in the event of any non-compliance, including fines of up to 10 million Euros or up to 2% of our total worldwide annual turnover for certain comparatively minor offenses, or up to 20 million Euros or up to 4% of our total worldwide annual turnover for more serious offenses. Given the new law, we face uncertainty as to the exact interpretation of the new requirements, and we may be unsuccessful in implementing all measures required by data protection authorities or courts in interpretation of the new law.

In particular, national laws of member states of the EU are in the process of being adapted to the requirements under the GDPR, thereby implementing national laws which may partially deviate from the GDPR and impose different obligations from country to country, so that we do not expect to operate in a uniform legal landscape in the EU. Also, in the field of handling genetic data, the GDPR specifically allows national laws to impose additional and more specific requirements or restrictions, and European laws have historically differed quite substantially in this field, leading to additional uncertainty.

With respect to our clinical trials in the EEA, we must also ensure that we maintain adequate safeguards to enable the transfer of personal data outside of the EEA, in particular to the United States in compliance with European data protection laws including the GDPR. We expect that we will continue to face uncertainty as to whether our efforts to comply with our obligations under European privacy laws will be sufficient. If we are investigated by a European data protection authority, we may face fines and other penalties. Any such investigation or charges by European data protection authorities could have a negative effect on our existing business and on our ability to attract and retain new clients or pharmaceutical partners. We may also experience hesitancy, reluctance, or refusal by European or multi-national clients or pharmaceutical partners to continue to use our products and solutions due to the potential risk exposure as a result of the current (and, in particular, future) data protection obligations imposed on them by certain data protection authorities in interpretation of current law, including the GDPR. Such clients or pharmaceutical partners may also view any alternative approaches to compliance as being too costly, too burdensome, too legally uncertain, or otherwise objectionable and therefore decide not to do business with us. Any of the foregoing could materially harm our business, prospects, financial condition and results of operations.

Laws and regulations governing any international operations may preclude us from developing, manufacturing and selling certain products outside of the United States and require us to develop and implement costly compliance programs.

Because we have operations outside of the United States, we must dedicate additional resources to comply with numerous laws and regulations in each jurisdiction in which we plan to operate. The FCPA prohibits any U.S. individual or business from paying, offering, authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with certain accounting provisions requiring the company to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations.

Compliance with the FCPA is expensive and difficult, particularly in countries in which corruption is a recognized problem. We, directly or through our CROs, are conducting clinical trials in countries that Transparency International has identified as “perceived as more corrupt”, including, Brazil, Chile, Georgia, Russia and Ukraine. In addition, the FCPA presents particular challenges in the pharmaceutical industry, because, in many countries, hospitals are operated by the government, and doctors and other hospital employees are considered foreign officials. Certain payments to hospitals in connection with clinical trials and other work have been deemed to be improper payments to government officials and have led to FCPA enforcement actions.

Various laws, regulations and executive orders also restrict the use and dissemination outside of the United States, or the sharing with certain non-U.S. nationals, of information classified for national security purposes, as well as certain products and technical data relating to those products. As we expand our presence outside of the United States, we must dedicate additional resources to comply with these laws, and these laws may preclude us from developing, manufacturing, or selling certain products and product candidates outside of the United States, which could limit our growth potential and increase our development costs.

The failure to comply with laws governing international business practices may result in substantial civil and criminal penalties and suspension or debarment from government contracting. The SEC also may suspend or bar issuers from trading securities on U.S. exchanges for violations of the FCPA's accounting provisions.

We are subject to certain U.S. and foreign anti-corruption, anti-money laundering, export control, sanctions, and other trade laws and regulations. We can face serious consequences for violations.

Among other matters, U.S. and foreign anti-corruption, anti-money laundering, export control, sanctions, and other trade laws and regulations, which are collectively referred to as Trade Laws, prohibit companies and their employees, agents, clinical research organizations, legal counsel, accountants, consultants, contractors, and other partners from authorizing, promising, offering, providing, soliciting, or receiving directly or indirectly, corrupt or improper payments or anything else of value to or from recipients in the public or private sector. Violations of Trade Laws can result in substantial criminal fines and civil penalties, imprisonment, the loss of trade privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm, and other consequences. We have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities, and other organizations. We also expect our non-U.S. activities to increase in time. We engage third parties for clinical trials and/or to obtain necessary permits, licenses, patent registrations, and other regulatory approvals and we can be held liable for the corrupt or other illegal activities of our personnel, agents, or partners, even if we do not explicitly authorize or have prior knowledge of such activities. The Russian invasion of Ukraine has resulted in new and expanded U.S. and EU sanctions against Russia which have impacted the conduct of business with Russian entities, and may impact existing sales of services within Russia by our wholly-owned, independently-operated subsidiary, Atlant Clinical, a CRO based in Moscow, Russia, which we acquired in 2020.

Inadequate funding for the FDA and other government agencies could hinder their ability to hire and retain key leadership and other personnel, prevent new products and services from being developed or commercialized in a timely manner or otherwise prevent those agencies from performing normal business functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept the payment of user fees, statutory, regulatory, and policy changes and the impact of crises that hinder its operations, such as COVID-19. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of other government agencies on which our operations may rely, including those that fund research and development activities, is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, including most recently from December 22, 2018 to January 25, 2019, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA, have had to furlough critical FDA and other government employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

If we do not comply with environmental laws and regulations, we may incur significant costs and potential disruption to our business.

We use or may use hazardous, infectious, and radioactive materials, and recombinant DNA in our operations, which have the potential of being harmful to human health and safety or the environment. We store these hazardous (flammable, corrosive, toxic), infectious, and radioactive materials, and various wastes resulting from their use, at our facilities pending use and ultimate disposal. We are subject to a variety of federal, state, and local laws and regulations governing use, generation, storage, handling, and disposal of these materials. We may incur significant costs complying with both current and future environmental health and safety laws and regulations. In particular, we are subject to regulation by the Occupational Safety and Health Administration, the Environmental Protection Agency, the Drug Enforcement Agency, the Department of Transportation, the Centers for Disease Control and Prevention, the National Institutes of Health, the International Air Transportation Association, and various state and local agencies. At any time, one or more of the aforementioned agencies could adopt regulations that may affect our operations. We are also subject to regulation under the Toxic Substances Control Act and the Resource Conservation Development programs.

Although we believe that our current procedures and programs for handling, storage, and disposal of these materials comply with federal, state, and local laws and regulations, we cannot eliminate the risk of accidents involving contamination from these materials. Although we have a workers' compensation liability policy, we could be held liable for resulting damages in the event of an accident or accidental release, and such damages could be substantially in excess of any available insurance coverage and could substantially disrupt our business.

If we or our employees, independent contractors, consultants, commercial partners and vendors fail to comply with laws or regulations, it could adversely impact our reputation, business and stock price.

We are exposed to the risk of employee fraud or other misconduct our employees, independent contractors, consultants, commercial partners and vendors. Misconduct by employees could include intentional and/or negligent 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 health care fraud and abuse, transparency, and/or data privacy laws and regulations (including the California Consumer Privacy Act) and security laws and regulations, to report financial information or data accurately or to disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, self-dealing and other abusive practices; to promote transparency; and to protect the privacy and security of patient data. 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. If we obtain FDA approval of any of our product candidates and begin commercializing those products in the United States, our potential exposure under such laws will increase significantly, and our costs associated with compliance with such laws are also likely to increase. These laws may impact, among other things, our current activities with principal investigators and research patients, as well as proposed and future sales, marketing and education programs.

While we have adopted a corporate compliance program, we may not be able to protect against all potential issues of noncompliance. Efforts to ensure that our business complies with all applicable healthcare laws and regulations will 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 laws and regulations.

Employee misconduct could also involve the improper use or disclosure of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to 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 the attention of our management team.

Risks associated with doing business internationally could negatively affect our business.

We currently have research and development operations in the United Kingdom (“UK”) and clinical operations in western and eastern Europe, and we expect to pursue pathways to develop and commercialize our product candidates in both U.S. and ex-U.S. jurisdictions. Various risks associated with foreign operations may impact our success. Possible risks of foreign operations include fluctuations in the value of foreign and domestic currencies, requirements to comply with various jurisdictional requirements such as data privacy regulations, disruptions in the import, export, and transportation of patient tumors and our products or product candidates, the product and service needs of foreign customers, difficulties in building and managing foreign relationships, the performance of our licensees or collaborators, geopolitical instability, unexpected regulatory, economic, or political changes in foreign and domestic markets, including without limitation any resulting from the UK’s withdrawal from the EU or our current political regime, and limitations on the flexibility of our operations and costs imposed by local labor laws.

Although we do not anticipate a material impact to our global business operations, our subsidiary Atlant Clinical has employees in Russia who could be adversely affected by the impact of the Russian invasion of Ukraine. The war may impact staffing and adversely impact existing business, new business development, the completion of projects and adherence to timelines by affected employees.

The exit of the UK from the European Union may materially affect the regulatory regime that governs our handling of EU personal data and expose us to legal and business risks under European data privacy and protection law.

As a result of the UK exiting the EU, commonly known as Brexit, since January 1, 2021, any transfers of personal data to the UK are subject to the requirements of Chapter V of the GDPR and of the Law Enforcement Directive and absent an adequacy finding under GDPR, transfers of personal data from the EU to the UK, including to our facility in Cambridge, UK, would be illegal without adequate safeguards provided for under EC-approved mechanisms, such as current standard contractual clauses or, if approved in the future, an EU-UK privacy shield similar to the current framework in place between the EU and the United States. The extensive authority of UK intelligence and law enforcement agencies, including to conduct surveillance on personal data flows, could reduce the likelihood that the EC would give the UK an adequacy finding and reduce the likelihood that the EC would approve an EU-UK

privacy shield. Accordingly, we may be exposed to legal risk for any of our EU-UK personal data transfers, including those that involve sensitive data such as patient and genetic data. Given the uncertainties surrounding the UK's departure from the EU, it is difficult to precisely identify or quantify the risks described above.

Additionally, it is possible that, over time, the UK Data Protection Act could become less aligned with the GDPR, which could require us to implement different compliance measures for the UK and the European Union and result in potentially enhanced compliance obligations for EU personal data.

As a result, Brexit adds legal risk, uncertainty, complexity and cost to our handling of EU personal information and our privacy and data security compliance programs. If we do not successfully manage such risk, our prospects may be materially harmed.

Our ability to use net operating losses and research and development credits to offset future taxable income may be subject to certain limitations.

As of December 31, 2022, we had U.S. federal and state net operating loss, or Net Operating Losses ("NOLs"), carryforwards of \$690.1 million and \$263.6 million, respectively, which may be available to offset future taxable income. The federal NOLs include \$549.3 million which expire at various dates through 2042 and \$140.8 million which carryforward indefinitely. The state NOLs expire at various dates through 2042. As of December 31, 2022, we also had U.S. federal and state research and development tax credit carryforwards of \$8.4 million and \$1.9 million, respectively, which may be available to offset future tax liabilities and begin to expire in 2023. In addition, in general, under Sections 382 and 383 of the Code and corresponding provisions of state law, a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its pre-change net operating loss carryforwards or tax credits, or NOLs or credits, to offset future taxable income or taxes. For these purposes, an ownership change generally occurs where the aggregate stock ownership of one or more stockholders or groups of stockholders who owns at least 5% of a corporation's stock increases its ownership by more than 50 percentage points over its lowest ownership percentage within a specified testing period. Our existing NOLs or credits may be subject to limitations arising from previous ownership changes, including in connection with our recent private placements, IPO and other transactions. In addition, future changes in our stock ownership, many of which are outside of our control, could result in an ownership change under Sections 382 and 383 of the Code and our ability to utilize NOLs or credits may be impaired. Our NOLs or credits may also be impaired under state law. Accordingly, we may not be able to utilize a material portion of our NOLs or credits. Furthermore, our ability to utilize our NOLs or credits is conditioned upon our attaining profitability and generating U. S. federal and state taxable income. As described above under "Risk factors—Risks Related to Our Financial Position and Need for Additional Capital," we have incurred significant net losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future; and therefore, we do not know whether or when we will generate the U.S. federal or state taxable income necessary to utilize our NOLs or credits that are subject to limitation by Sections 382 and 383 of the Code. The reduction of the corporate tax rate under the TCJA caused a reduction in the economic benefit of our net operating loss carryforwards and other deferred tax assets available to us. Under the TCJA, net operating loss carryforwards generated after December 31, 2017 will not be subject to expiration.

Risks Related to Our Intellectual Property

If we are unable to obtain and enforce patent protection for our product candidates and related technology, our business could be materially harmed.

We rely upon a combination of patents, trade secrets and confidentiality agreements to protect the intellectual property related to our product candidates and technology. Any disclosure to or misappropriation by third parties of our confidential proprietary information could enable competitors to duplicate or surpass our technological achievements, eroding our competitive position in the market. Our patent applications may not result in issued patents, and, even if issued, the patents may be challenged and invalidated. Moreover, our patents and patent applications may not be sufficiently broad to prevent others from practicing our technologies or developing competing products. We also face the risk that others may independently develop similar or alternative technologies or may design around our proprietary property.

Issued patents may be challenged, narrowed, invalidated or circumvented. In addition, court decisions may introduce uncertainty in the enforceability or scope of patents owned by biotechnology companies. The legal systems of certain countries do not favor the aggressive enforcement of patents, and the laws of foreign countries may not allow us to protect our inventions with patents to the same extent as the laws of the United States. Because patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing, or in some cases not at all, and because publications of discoveries in scientific literature lag behind actual discoveries, we cannot be certain that we were the first to make the inventions claimed in our issued patents or pending patent applications, or that we were the first to file for protection of the inventions set forth in our patents or patent

applications. As a result, we may not be able to obtain or maintain protection for certain inventions. Therefore, the enforceability and scope of our patents in the United States and in foreign countries cannot be predicted with certainty and, as a result, any patents that we own, or license may not provide sufficient protection against competitors. We may not be able to obtain or maintain patent protection from our pending patent applications, from those we may file in the future, or from those we may license from third parties. Moreover, even if we are able to obtain patent protection, such patent protection may be of insufficient scope to achieve our business objectives.

Patent terms may be inadequate to protect our competitive position on our product candidates for an adequate amount of time. Patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after its effective filing date. Various extensions may be available; however, the life of a patent, and the protection it affords, is limited. Without patent protection for our product candidates, we may be open to competition from biosimilar or generic versions of our product candidates. Furthermore, the product development timeline for biotechnology products is lengthy and it is possible that our issued patents covering our product candidates in the United States and other jurisdictions may expire prior to commercial launch. For example, if we encounter delays in our development efforts, including our clinical trials, the period of time during which we could market our product candidates under patent protection could be reduced.

Our strategy depends on our ability to identify and seek patent protection for our discoveries. This process is expensive and time consuming, and we and our current or future licensors or licensees may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner or in all jurisdictions where protection may be commercially advantageous. It is also possible that we or our current licensors or licensees, or any future licensors or licensees, may not identify patentable aspects of inventions made in the course of development and commercialization activities in time to obtain patent protection on them. Therefore, these and any of our patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. Defects of form in the preparation or filing of our patents or patent applications may exist, or may arise in the future, for example with respect to proper priority claims, inventorship, etc. If we or our current licensors or licensees, or any future licensors or licensees, fail to establish, maintain or protect such patents and other intellectual property rights, such rights may be reduced or eliminated. If our current licensors or licensees, or any future licensors or licensees, are not fully cooperative or disagree with us as to the prosecution, maintenance or enforcement of any patent rights, such patent rights could be compromised. If there are material defects in the form or preparation of our patents or patent applications, such patents or applications may be invalid and unenforceable. Despite our efforts to protect our proprietary rights, unauthorized parties may be able to obtain and use information that we regard as proprietary. The issuance of a patent does not ensure that it is valid or enforceable, so even if we obtain patents, they may not be valid or enforceable against third parties. In addition, the issuance of a patent does not give us the right to practice the patented invention. Third parties may have blocking patents that could prevent us from marketing our own patented product and practicing our own patented technology. Any of these outcomes could impair our ability to prevent competition from third parties, which may have an adverse impact on our business.

The patent landscapes in the fields of antibody, adjuvant and adoptive cell therapy development, manufacture and commercialization are crowded. For example, we are aware of third-party patents directed to methods for identifying and producing therapeutic products such as antibodies, adjuvants and adoptive cell therapies. We are also aware of third-party patents directed to products targeting numerous antigens for which we also seek to identify, develop, and commercialize products. For example, some patents claim products based on competitive binding with existing products, some claim products based on specifying sequence or other structural information, and some claim various methods of discovery, production, or use of such products.

These or other third-party patents could impact our freedom to operate in relation to our technology platforms, as well as in relation to development and commercialization of products identified by us as therapeutic candidates. As we discover and develop our candidates, we will continue to conduct analyses of these third-party patents to determine whether we believe we might infringe them, and if so, whether they would be likely to be deemed valid and enforceable if challenged. If we determine that a license for a given patent or family of patents is necessary or desirable, there can be no guarantee that a license would be available on favorable terms, or at all. Inability to obtain a license on favorable terms, should such a license be determined to be necessary or desirable, could, without limitation, result in increased costs to design around the third-party patents, delay product launch, or result in cancellation of the affected program or cessation of use of the affected technology.

Third parties may also seek to market biosimilar versions of any approved products. Alternatively, third parties may seek approval to market their own products similar to or otherwise competitive with our products. In these circumstances, we may need to defend and/or assert our patents, including by filing lawsuits alleging patent infringement. In any of these types of proceedings, a court or agency with jurisdiction may find our patents invalid and/or unenforceable. Even if we have valid and enforceable patents, these patents still may not provide protection against competing products or processes sufficient to achieve our business objectives.

Through our acquisitions of 4-AB, PhosImmune and certain assets of Celexion, we own, co-own, or have exclusive rights to a number of patents and patent applications directed to various methods and compositions, including methods for identifying therapeutic antibodies and product candidates arising out of such entities' technology platforms. In particular, we own patents and patent applications relating to our Retrocyte Display™ technology platform, a high throughput antibody expression platform for the identification of fully-human and humanized monoclonal antibodies. This patent family is projected to expire between 2029 and 2031. Through our acquisition of PhosImmune, we own, co-own, or have exclusive rights to patents and patent applications directed to various methods and compositions, including a patent directed to methods for identifying phosphorylated proteins using mass spectrometry. This patent is projected to expire in 2023. In addition, as we advance our research and development efforts with our institutional and corporate collaborators, we are seeking patent protection for newly identified therapeutic antibodies and product candidates. We can provide no assurance that any of our patents, including the patents that we acquired or in-licensed in connection with our acquisitions of 4-AB, PhosImmune and certain assets of Celexion, will have commercial value, or that any of our existing or future patent applications, including the patent applications that we acquired or in-licensed in connection with our acquisitions of 4-AB, PhosImmune and certain assets of Celexion, will result in the issuance of valid and enforceable patents.

The patent position of biopharmaceutical, pharmaceutical or biotechnology companies, including ours, is generally uncertain and involves complex legal and factual considerations. The standards which the USPTO and its foreign counterparts use to grant patents are not always applied predictably or uniformly and can change. There is also no uniform, worldwide policy regarding the subject matter and scope of claims granted or allowable in biopharmaceutical, pharmaceutical or biotechnology patents. The laws of some foreign countries do not protect proprietary information to the same extent as the laws of the United States, and many companies have encountered significant problems and costs in protecting their proprietary information in these foreign countries. Outside the United States, patent protection must be sought in individual jurisdictions, further adding to the cost and uncertainty of obtaining adequate patent protection outside of the United States. Accordingly, we cannot predict whether additional patents protecting our technology will issue in the United States or in foreign jurisdictions, or whether any patents that do issue will have claims of adequate scope to provide competitive advantage. Moreover, we cannot predict whether third parties will be able to successfully obtain claims or the breadth of such claims. The allowance of broader claims may increase the incidence and cost of patent interference proceedings, opposition proceedings, post-grant review, inter partes review, and/or reexamination proceedings, the risk of infringement litigation, and the vulnerability of the claims to challenge. On the other hand, the allowance of narrower claims does not eliminate the potential for adversarial proceedings and may fail to provide a competitive advantage. Our issued patents may not contain claims sufficiently broad to protect us against third parties with similar technologies or products or provide us with any competitive advantage.

If any of our owned or in-licensed patent applications do not issue as patents in any jurisdiction, we may not be able to compete effectively.

Changes in either the patent laws or their interpretation in the United States and other countries may diminish our ability to protect our inventions, obtain, maintain, and enforce our intellectual property rights and, more generally, could affect the value of our intellectual property or narrow the scope of our owned and licensed patents. With respect to our patent portfolio, as of the date of this filing, we own, co-own or have exclusive rights to approximately 37 issued United States patents and approximately 124 issued foreign patents. We also own, co-own or have exclusive rights to approximately 38 pending United States patent applications and approximately 317 pending foreign patent applications. Our patent positions, and those of other biopharmaceutical, pharmaceutical and biotechnology companies, are generally uncertain and involve complex legal, scientific, and factual questions. The standards which the United States Patent and Trademark Office ("USPTO") uses to grant patents, and the standards which courts use to interpret patents, are not always applied predictably or uniformly and can change, particularly as new technologies develop. Consequently, the level of protection, if any, that will be provided by our patents if we attempt to enforce them and they are challenged, is uncertain. In addition, the type and extent of patent claims that will be issued to us in the future is uncertain. Any patents that are issued may not contain claims that permit us to stop competitors from using similar technology. With respect to both in- licensed and owned intellectual property, we cannot predict whether the patent applications we and our licensors are currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient protection from competitors or other third parties.

The patent prosecution process is expensive, time-consuming, and complex, and we may not be able to file, prosecute, maintain, enforce, or license all necessary or desirable patents and patent applications at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output in time to obtain patent protection. Although we enter into non-disclosure and confidentiality agreements with parties who have access to confidential or patentable aspects of our research and development output, such as our employees, corporate collaborators, outside scientific collaborators, contract research organizations, contract manufacturers, consultants, advisors and other third parties, any of these parties may breach such agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection. In addition, our ability to obtain and maintain valid and enforceable patents depends on whether the differences between our inventions and the prior art allow our inventions to be patentable over the prior art. Furthermore, publications of discoveries in the

scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we or our licensors were the first to make the inventions claimed in any of our owned or licensed patents or pending patent applications, or that we or our licensors were the first to file for patent protection of such inventions.

If the scope of any patent protection we obtain is not sufficiently broad, or if we lose any of our patent protection, our ability to prevent our competitors from commercializing similar or identical technology and product candidates would be adversely affected.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions, and has been the subject of much litigation in recent years. As a result, the issuance, scope, validity, enforceability, and commercial value of our patent rights are highly uncertain. Our approximately 40 pending United States patent applications and approximately 260 pending foreign patent applications may not result in patents being issued which protect our product candidates or patents which effectively prevent others from commercializing competitive technologies and product candidates.

No consistent policy regarding the scope of claims allowable in patents in the biotechnology field has emerged in the United States. The patent situation outside of the United States is even more uncertain. Changes in either the patent laws or their interpretation in the United States and other countries may diminish our ability to protect our inventions and enforce our intellectual property rights, and more generally could affect the value of our intellectual property. In particular, our ability to stop third parties from making, using, selling, offering to sell, or importing products that infringe our intellectual property will depend in part on our success in obtaining and enforcing patent claims that cover our technology, inventions and improvements. With respect to both licensed and company-owned intellectual property, we cannot be sure that patents will be granted with respect to any of our pending patent applications or with respect to any patent applications filed by us in the future, nor can we be sure that any of our existing patents or any patents that may be granted to us in the future will be commercially useful in protecting our products and the methods used to manufacture those products. Moreover, even our issued patents do not guarantee us the right to practice our technology in relation to the commercialization of our products. The area of patent and other intellectual property rights in biotechnology is an evolving one with many risks and uncertainties, and third parties may have blocking patents that could be used to prevent us from commercializing our patented product candidates and practicing our proprietary technology. Our issued patent and those that may issue in the future may be challenged, invalidated, or circumvented, which could limit our ability to stop competitors from marketing related products or limit the length of the term of patent protection that we may have for our product candidates. In addition, the rights granted under any issued patents may not provide us with protection or competitive advantages against competitors with similar technology. Furthermore, our competitors may independently develop similar technologies. For these reasons, we may have competition for our product candidates. Moreover, because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that, before any particular product candidate can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thereby reducing any advantage of the patent.

Moreover, the coverage claimed in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted after issuance. Even if patent applications we own or license issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors or other third parties from competing with us, or otherwise provide us with any competitive advantage. Any patents that we own or in-license may be challenged, narrowed, circumvented, or invalidated by third parties. Consequently, we do not know whether our product candidates will be protectable or remain protected by valid and enforceable patents. Our competitors or other third parties may be able to circumvent our patents by developing similar or alternative technologies or products in a non-infringing manner which could materially adversely affect our business, financial condition, results of operations and prospects.

The issuance of a patent is not conclusive as to its inventorship, scope, validity, or enforceability, and patents that we own or license may be challenged in the courts or patent offices in the United States and abroad. We or our licensors may be subject to a third party preissuance submission of prior art to the USPTO or to foreign patent authorities or become involved in opposition, derivation, revocation, reexamination, post-grant and inter partes review, or interference proceedings or other similar proceedings challenging our owned or licensed patent rights. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate or render unenforceable, our owned or in-licensed patent rights, allow third parties to commercialize our product candidates, and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights. Moreover, we, or one of our licensors, may have to participate in interference proceedings declared by the USPTO to determine priority of invention or in post-grant challenge proceedings, such as oppositions in a foreign patent office, that challenge our or our licensor's priority of invention or other features of patentability with respect to our owned or in-licensed patents and patent applications. Such challenges may result in loss of patent rights, loss of exclusivity, or in patent claims being narrowed, invalidated, or held unenforceable, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our product candidates. Such proceedings also

may result in substantial cost and require significant time from our scientists and management, even if the eventual outcome is favorable to us.

In addition, given the amount of time required for the development, testing, and regulatory review of new product candidates, patents protecting such product candidates might expire before or shortly after such product candidates are commercialized. As a result, our intellectual property may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

We may in the future co-own patent rights relating to future product candidates with third parties. Some of our in-licensed patent rights are, and may in the future be, co-owned with third parties. In addition, our licensors may co-own the patent rights we in-license with other third parties with whom we do not have a direct relationship. Our exclusive rights to certain of these patent rights are dependent, in part, on inter-institutional or other operating agreements between the joint owners of such patent rights, who are not parties to our license agreements. If our licensors do not have exclusive control of the grant of licenses under any such third-party co-owners' interest in such patent rights or we are otherwise unable to secure such exclusive rights, such co-owners may be able to license their rights to other third parties, including our competitors, and our competitors could market competing products and technology. In addition, we may need the cooperation of any such co-owners of our patent rights in order to enforce such patent rights against third parties, and such cooperation may not be provided to us. Any of the foregoing could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

If we fail to comply with our obligations under our intellectual property licenses with third parties, we could lose license rights that are important to our business.

We are currently party to various intellectual property license agreements. These license agreements impose, and we expect that future license agreements may impose, various diligence, milestone payment, royalty, insurance, prosecution, enforcement and other obligations on us. These licenses typically include an obligation to pay an upfront payment, yearly maintenance payments and royalties on sales. If we fail to comply with our obligations under the licenses, the licensors or licensees may have the right to terminate their respective license agreements, in which event we might not be able to market or obtain royalties or other revenue from any product that is covered by the agreements. Termination of the license agreements or reduction or elimination of our licensed rights may result in our having to negotiate new or reinstated licenses with less favorable terms, which could adversely affect our competitive business position and harm our business. In addition, court decisions may introduce uncertainty with respect to terms of a license agreement such as the impact of a challenge to the validity of a licensed patent on the payment obligations or termination rights of the license.

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

Filing, prosecuting and defending patents on our product candidates in all countries throughout the world would be prohibitively expensive. The requirements for patentability may differ in certain countries, particularly developing countries. For example, China has a heightened requirement for patentability, and specifically requires a detailed description of medical uses of a claimed drug. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection, but enforcement on infringing activities is inadequate. These products may compete with our product candidates, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. In addition, certain countries in Europe and certain developing countries, including India and China, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In those countries, we may have limited remedies if our patents are infringed or if we are compelled to grant a license to our patents to a third party, which could materially diminish the value of those patents. This could limit our potential revenue opportunities. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to

obtain a significant commercial advantage from the intellectual property that we own or license. Finally, our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in foreign intellectual property laws.

Obtaining and maintaining our patent protection depends on compliance with various procedural, documentary, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or applications will be due to the USPTO and various foreign patent offices at various points over the lifetime of our patents and/or applications. We have systems in place to remind us to pay these fees, and we rely on our outside counsel or service providers to pay these fees when due. Additionally, the USPTO and various foreign patent offices require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply, and in many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with rules applicable to the particular jurisdiction. However, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. If such an event were to occur, it could have a material adverse effect on our business. In addition, we are responsible for the payment of patent fees for patent rights that we have licensed from other parties.

If any licensor of these patents does not itself elect to make these payments, and we fail to do so, we may be liable to the licensor for any costs and consequences of any resulting loss of patent rights.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our product candidates.

Obtaining and enforcing patents in the biopharmaceutical industry involves both technological and legal complexity, and therefore, is costly, time-consuming and inherently uncertain. In addition, the United States has enacted and implemented wide-ranging patent reform legislation. Further, recent U.S. Supreme Court rulings have either narrowed the scope of patent protection available in certain circumstances or weakened the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained.

If we are unable to protect the confidentiality of our proprietary information, the value of our technology and products could be adversely affected.

In addition to patent protection, we also rely on other proprietary rights, including protection of trade secrets, and other proprietary information. To maintain the confidentiality of trade secrets and proprietary information, we enter into confidentiality agreements with our employees, consultants, collaborators and others upon the commencement of their relationships with us. These agreements require that all confidential information developed by the individual or made known to the individual by us during the course of the individual's relationship with us be kept confidential and not disclosed to third parties. Our agreements with employees and our personnel policies also provide that any inventions conceived by the individual in the course of rendering services to us shall be our exclusive property. However, we may not obtain these agreements in all circumstances, and individuals with whom we have these agreements may not comply with their terms. Thus, despite such agreement, such inventions may become assigned to third parties. In the event of unauthorized use or disclosure of our trade secrets or proprietary information, these agreements, even if obtained, may not provide meaningful protection, particularly for our trade secrets or other confidential information. To the extent that our employees, consultants or contractors use technology or know-how owned by third parties in their work for us, disputes may arise between us and those third parties as to the rights in related inventions. To the extent that an individual who is not obligated to assign rights in intellectual property to us is rightfully an inventor of intellectual property, we may need to obtain an assignment or a license to that intellectual property from that individual, or a third party or from that individual's assignee. Such assignment or license may not be available on commercially reasonable terms or at all.

Adequate remedies may not exist in the event of unauthorized use or disclosure of our proprietary information. The disclosure of our trade secrets would impair our competitive position and may materially harm our business, financial condition and results of operations. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to maintain trade secret protection could adversely affect our competitive business position. In addition, others may independently discover or develop our trade secrets and proprietary information, and the existence of our own trade secrets affords no protection against such independent discovery.

Depending upon the nature of the product and the specifics of the related FDA marketing approval, data exclusivity under the Biologics Price Competition and Innovation Act (“BPCIA”) or related laws in the U.S. or certain foreign countries and territories may be available for our products. The BPCIA provides that FDA shall not approve certain biosimilars from the date of first licensure of a reference product for 12 years, subject to certain restrictions. However, we may not obtain or be eligible for data exclusivity because of, for example, the nature of the product with respect to other products on the market, our relationships with our partners (including our licensors and licensees), failing to claim the exclusivity at the appropriate time or otherwise failing to satisfy applicable requirements. If we are unable to obtain data exclusivity, our competitors may obtain earlier approval of competing products, and our business, financial condition, results of operations and prospects could be materially harmed.

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

We may have received confidential and proprietary information from third parties. In addition, we employ individuals who were previously employed at other biopharmaceutical, biotechnology or pharmaceutical companies. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise improperly used or disclosed confidential information of these third parties or our employees’ former employers. Further, we may be subject to ownership disputes in the future arising, for example, from conflicting obligations of consultants or others who are involved in developing our product candidates. We may also be subject to claims that former employees, consultants, independent contractors, collaborators or other third parties have an ownership interest in our patents or other intellectual property. Litigation may be necessary to defend against these and other claims challenging our right to and use of confidential and proprietary information. If we fail in defending any such claims, in addition to paying monetary damages, we may lose our rights therein. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against these claims, litigation could result in substantial cost and be a distraction to our management and employees.

Our commercial success depends significantly on our ability to operate without infringing the patents and other proprietary rights of third parties.

Our success will depend in part on our ability to operate without infringing the proprietary rights of third parties. Other entities may have or obtain patents or proprietary rights that could limit our ability to make, use, sell, offer for sale or import our future approved products or impair our competitive position. In particular, the patent landscapes around the discovery, development, manufacture and commercial use of our product candidates are crowded.

Third parties may have or obtain valid and enforceable patents or proprietary rights that could block us from developing product candidates using our technology. Our failure to obtain a license to any technology that we require may materially harm our business, financial condition and results of operations. Moreover, our failure to maintain a license to any technology that we require may also materially harm our business, financial condition, and results of operations. Furthermore, we would be exposed to a threat of litigation.

In the biopharmaceutical industry, significant litigation and other proceedings regarding patents, patent applications, trademarks and other intellectual property rights have become commonplace. The types of situations in which we may become a party to such litigation or proceedings include:

- we or our collaborators may initiate litigation or other proceedings against third parties seeking to invalidate the patents held by those third parties or to obtain a judgment that our products or processes do not infringe those third parties’ patents;
- if our competitors file patent applications that claim technology also claimed by us or our licensors or licensees, we or our licensors or licensees may be required to participate in interference, derivation or other proceedings to determine the priority of invention, which could jeopardize our patent rights and potentially provide a third party with a dominant patent position;
- if third parties initiate litigation claiming that our processes or products infringe their patent or other intellectual property rights, we and our collaborators will need to defend against such proceedings; and
- if a license to necessary technology is terminated, the licensor may initiate litigation claiming that our processes or products infringe or misappropriate their patent or other intellectual property rights and/or that we breached our obligations under the license agreement, and we and our collaborators would need to defend against such proceedings.

These lawsuits would be costly and could affect our results of operations and divert the attention of our management and scientific personnel. There is a risk that a court would decide that we or our collaborators are infringing the third party’s patents and would order us or our collaborators to stop the activities covered by the patents. In that event, we or our collaborators may not have a

viable alternative to the technology protected by the patent and may need to halt work on the affected product candidate or cease commercialization of an approved product. In addition, there is a risk that a court will order us or our collaborators to pay the other party damages. An adverse outcome in any litigation or other proceeding could subject us to significant liabilities to third parties and require us to cease using the technology that is at issue or to license the technology from third parties. We may not be able to obtain any required licenses on commercially acceptable terms or at all. Any of these outcomes could have a material adverse effect on our business.

The biopharmaceutical industry has produced a significant number of patents, and it may not always be clear to industry participants, including us, which patents cover various types of products or methods of use. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform or predictable. 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. If we are unable to avoid infringing the patent rights of others, we may be required to seek a license, defend an infringement action or challenge the validity of the patents in court. Patent litigation is costly and time consuming. We may not have sufficient resources to bring these actions to a successful conclusion. In addition, if we do not obtain a license, develop or obtain non-infringing technology, fail to defend an infringement action successfully or have infringed patents declared invalid, we may incur substantial monetary damages, encounter significant delays in bringing our product candidates to market and be precluded from manufacturing or selling our product candidates.

The cost of any patent litigation or other proceeding, even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the cost of such litigation and proceedings more effectively than we can because of their substantially greater resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace. Patent litigation and other proceedings may also absorb significant management time.

We may not identify relevant third-party patents or may incorrectly interpret the relevance, scope or expiration of a third-party patent which might adversely affect our ability to develop and market our product candidates.

We cannot guarantee that any of our or our licensors' patent searches or analyses, including the identification of relevant patents, the scope of patent claims or the expiration of relevant patents, are complete or thorough, nor can we be certain that we have identified each and every third-party patent and pending patent application in the United States and abroad that is relevant to or necessary for the commercialization of our product candidates in any jurisdiction. For example, U.S. patent applications filed before November 29, 2000 and certain U.S. patent applications filed after that date that will not be filed outside the United States remain confidential until patents issue. Patent applications in the United States and elsewhere are published approximately 18 months after the earliest filing for which priority is claimed, with such earliest filing date being commonly referred to as the priority date. Therefore, patent applications covering our product candidates could have been filed by third parties without our knowledge. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our product candidates or the use of our product candidates. The scope of a patent claim is determined by an interpretation of the law, the written disclosure in a patent and the patent's prosecution history. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect, which may negatively impact our ability to market our product candidates. We may incorrectly determine that our product candidates are not covered by a third-party patent or may incorrectly predict whether a third party's pending application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States or abroad that we consider relevant may be incorrect, which may negatively impact our ability to develop and market our product candidates. Our failure to identify and correctly interpret relevant patents may negatively impact our ability to develop and market our product candidates.

If we fail to identify and correctly interpret relevant patents, we may be subject to infringement claims. We cannot guarantee that we will be able to successfully settle or otherwise resolve such infringement claims. If we fail in any such dispute, in addition to being forced to pay damages, which may be significant, we may be temporarily or permanently prohibited from commercializing any of our product candidates that are held to be infringing. We might, if possible, also be forced to redesign product candidates so that we no longer infringe the third-party intellectual property rights. Any of these events, even if we were ultimately to prevail, could require us to divert substantial financial and management resources that we would otherwise be able to devote to our business and could adversely affect our business, financial condition, results of operations and prospects.

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

Third parties may infringe or misappropriate our intellectual property, including our existing patents, patents that may issue to us in the future, or the patents of our licensors or licensees to which we have a license. As a result, we may be required to file infringement claims to stop third-party infringement or unauthorized use. Further, we may not be able to prevent, alone or with our licensors or licensees, misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States.

If we or one of our licensors or licensees were to initiate legal proceedings against a third party to enforce a patent covering our product candidates, the defendant could counterclaim that the patent covering our product candidates is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace, and there are numerous grounds upon which a third party can assert invalidity or unenforceability of a patent.

In addition, within and outside of the United States, there has been a substantial amount of litigation and administrative proceedings, including interference and reexamination proceedings before the USPTO or oppositions and other comparable proceedings in various foreign jurisdictions, regarding patent and other intellectual property rights in the biopharmaceutical industry. Notably, the AIA, introduced new procedures, including inter partes review and post grant review. These procedures may be used by competitors to challenge the scope and/or validity of our patents, including those patents perceived by our competitors as blocking entry into the market for their products, and the outcome of such challenges.

Even after they have been issued, our patents and any patents which we license may be challenged, narrowed, invalidated or circumvented. If our patents are invalidated or otherwise limited or will expire prior to the commercialization of our product candidates, other companies may be better able to develop products that compete with ours, which could adversely affect our competitive business position, business prospects and financial condition.

The following are non-exclusive examples of litigation and other adversarial proceedings or disputes that we could become a party to involving our patents or patents licensed to us:

- we or our collaborators may initiate litigation or other proceedings against third parties to enforce our patent rights;
- third parties may initiate litigation or other proceedings seeking to invalidate patents owned by or licensed to us or to obtain a declaratory judgment that their product or technology does not infringe our patents or patents licensed to us;
- third parties may initiate opposition proceedings, post-grant review, inter partes review, or reexamination proceedings challenging the validity or scope of our patent rights, requiring us or our collaborators and/or licensors or licensees to participate in such proceedings to defend the validity and scope of our patents;
- there may be a challenge or dispute regarding inventorship or ownership of patents currently identified as being owned by or licensed to us;
- the USPTO may initiate an interference or derivation proceeding between patents or patent applications owned by or licensed to us and those of our competitors, requiring us or our collaborators and/or licensors or licensees to participate in an interference or derivation proceeding to determine the priority of invention, which could jeopardize our patent rights; or
- third parties may seek approval to market biosimilar versions of our future approved products prior to expiration of relevant patents owned by or licensed to us, requiring us to defend our patents, including by filing lawsuits alleging patent infringement.

These lawsuits and proceedings would be costly and could affect our results of operations and divert the attention of our managerial and scientific personnel. There is a risk that a court or administrative body could decide that our patents are invalid or not infringed by a third party's activities, or that the scope of certain issued claims must be further limited. An adverse outcome in a litigation or proceeding involving our own patents could limit our ability to assert our patents against these or other competitors, affect our ability to receive royalties or other licensing consideration from our licensees, and may curtail or preclude our ability to exclude third parties from making, using and selling similar or competitive products. An adverse outcome may also put our pending patent applications at risk of not issuing, or issuing with limited and potentially inadequate scope to cover our product candidates. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. Additionally, it is also possible that prior art of which we are aware, but which we do not believe affects the validity or enforceability of a claim, may, nonetheless, ultimately be found by a court of law or an administrative panel to affect the validity or enforceability of a claim, for example, if a priority claim is found to be improper. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we could lose at least part, and perhaps all, of the patent protection on our relevant product candidates. Such a loss of patent protection could have a material adverse impact on our business.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation or administrative proceedings, there is a risk that some of our confidential information could be compromised by disclosure. In addition, during the course of litigation or administrative proceedings, there could be public announcements of the results of hearings, motions or other interim proceedings or developments or public access to related documents. If investors perceive these results to be negative, the market price for our common stock could be significantly harmed. Any of these occurrences could adversely affect our competitive business position, business prospects, and financial condition.

Intellectual property rights do not necessarily address all potential threats to our competitive advantage. The degree of future protection for our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

- others may be able to develop a platform that is similar to, or better than, ours in a way that is not covered by the claims of our patents;
- others may be able to make compounds that are similar to our product candidates but that are not covered by the claims of our patents;
- we might not have been the first to make the inventions covered by patents or pending patent applications;
- we might not have been the first to file patent applications for these inventions;
- any patents that we obtain may not provide us with any competitive advantages or may ultimately be found invalid or unenforceable; or
- we may not develop additional proprietary technologies that are patentable.

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

Depending upon the timing, duration and specifics of any FDA marketing approval of any product candidates we may develop, one or more of our owned or in-licensed U.S. patents may be eligible for limited patent term extension under the Hatch-Waxman Act. The Hatch-Waxman Act permits a patent term extension of up to five years as compensation for patent term lost during the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent may be extended and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. Similar 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, 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.

We may be subject to claims challenging the inventorship of our patents and other intellectual property.

We or our licensors may be subject to claims that former employees, collaborators or other third parties have an interest in our owned or in-licensed patent rights, trade secrets, or other intellectual property as an inventor or co-inventor. For example, we or our licensors may have inventorship disputes arise from conflicting obligations of employees, consultants or others who are involved in developing our product candidates. Litigation may be necessary to defend against these and other claims challenging inventorship or our licensors' ownership of our owned or in-licensed patent rights, trade secrets or other intellectual property. If we or our licensors fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, intellectual property that is important to our product candidates. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

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

Our registered or unregistered trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names, which we

need to build name recognition among potential partners or customers in our markets of interest. At times, competitors or other third parties may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. We also have partners who may market or refer to our trademarks or trade names and may use the trademarks or trade names in ways that impair our branding strategy. For example, Betta Pharmaceuticals has rights to our antibody, zalifrelimab, in greater China and may adopt a marketing strategy in their territories, including use or registration of trademarks and tradenames for our antibody, that could impair our brand identity or strategy and possibly cause market confusion. If we assert trademark infringement claims, a court may determine that the marks we have asserted are invalid or unenforceable, or that the party against whom we have asserted trademark infringement has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such trademarks. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected. Our efforts to enforce or protect our proprietary rights related to trademarks, trade secrets, domain names, copyrights or other intellectual property may be ineffective and could result in substantial costs and diversion of resources and could adversely affect our business, financial condition, results of operations and prospects.

Intellectual property rights do not necessarily address all potential threats.

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

- others may be able to make products that are similar to our product candidates or utilize similar technology but that are not covered by the claims of the patents that we license or may own;
- we, or our current or future licensors or collaborators, might not have been the first to make the inventions covered by the issued patent or pending patent application that we license or own now or in the future;
- we, or our current or future licensors or collaborators, might not have been the first to file patent applications covering certain of our or their inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our owned or licensed intellectual property rights;
- it is possible that our current or future pending owned or licensed patent applications will not lead to issued patents;
- issued patents that we hold rights to may be held invalid or unenforceable, including as a result of legal challenges by our competitors or other third parties;
- our competitors or other third parties might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- we may not develop additional proprietary technologies that are patentable;
- the patents of others may harm our business; and
- we may choose not to file a patent in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent covering such intellectual property.

Should any of these events occur, they could have a material adverse effect on our business, financial condition, results of operations and prospects.

Risks Related to Business Operations, Employee Matters and Managing Growth

We have undergone significant growth across multiple locations over the past several years and are focusing on further enhancing core areas and capabilities. In addition, we have consolidated certain sites while expanding others to focus on our core priorities and future needs. We may encounter difficulties in managing these growth and/or consolidation efforts, either of which could disrupt our operations.

Over the past several years, we have expanded our headcount through various acquisitions and the expansion of our research, development and manufacturing infrastructure and activities both nationally and internationally, while at the same time, in May 2022,

we announced that we had reduced expenses by approximately 20% to improve efficiency and focus on our most promising development candidates, such as botensilimab. To manage these organizational changes, we must continue to implement and improve our managerial, operational, and financial systems and continue to recruit, train and retain qualified personnel. If our management is unable to effectively manage our growth, our expenses may increase more than expected, our timelines may be delayed, our ability to generate revenue could be reduced, and we may not be able to implement our business strategy.

As part of our efforts to optimize efficiency across our organization, we previously closed offices in Germany and Switzerland and consolidated these operations in the UK. In January 2020, our subsidiary MiNK closed its Waterloo, Belgium office and consolidated those operations in our Lexington, MA facility. In March 2020, as a result of the COVID-19 pandemic, we completed a company-wide reduction in force. If as a result of these or similar future efforts we identify management or operational gaps in connection with our changes, it could cause delays in discovery timelines and increased costs for certain of our internal and partnered programs, which also could have an adverse effect on our business, financial condition and results of operations. We are still in the process of liquidating Agenus Switzerland. Certain intellectual property rights were transferred from Switzerland to the United States or elsewhere to support licensing transactions with third parties. Following those transfers, tax authorities in Canton Basel notified Agenus Switzerland of tax outstanding tax obligations of approximately CHF 4.0 million for tax years 2018 – 2020 combined and sought and obtained court orders to collect such sums from Agenus Switzerland (formerly 4-AB), or in the alternative liquidate the business. As part of its wind down, Agenus Switzerland transferred all remaining intellectual property rights to Agenus Inc. effective December 2022. There could be additional adverse tax consequences in Switzerland resulting from the migration of those remaining intellectual property rights as part of the final wind down of the business, which could have an adverse effect on our business and operations.

Product liability and other claims against us may reduce demand for our products and/or result in substantial damages.

We face an inherent risk of product liability exposure related to testing our product candidates in human clinical trials and manufacturing antibodies in our Berkeley, CA facility and may face even greater risks if we ever sell products commercially. An individual may bring a product liability claim against us if one of our product candidates causes, or merely appears to have caused, an injury. Product liability claims may result in:

- regulatory investigations;
- injury to our reputation;
- withdrawal of clinical trial volunteers;
- costs of and distraction related to litigation;
- substantial monetary awards to plaintiffs; and
- decreased demand for any future products.

We have limited product liability coverage for use of our product candidates. Our product liability policy provides \$10.0 million aggregate coverage and \$10.0 million per occurrence coverage. This limited insurance coverage may be insufficient to fully cover us for future claims.

We are also subject to domestic and international laws generally applicable to businesses, including but not limited to, federal, state and local wage and hour, employee classification, mandatory healthcare benefits, unlawful workplace discrimination and whistle-blowing. Any actual or alleged failure to comply with any regulation applicable to our business or any whistle-blowing claim, even if without merit, could result in costly litigation, regulatory action or otherwise harm our business, results of operations, financial condition, cash flow and future prospects.

We are highly reliant on certain members of our management team. In addition, we have limited internal resources and if we fail to recruit and/or retain the services of key employees and external consultants as needed, we may not be able to achieve our strategic and operational objectives.

Garo H. Armen, Ph.D., the Chairman of our Board of Directors and our Chief Executive Officer who co-founded the Company in 1994 is integral to building our company and developing our technology. Jennifer Buell, Ph.D., Chair of Agenus' Executive Council, also provides key strategic advice. If either Dr. Armen or Dr. Buell is unable or unwilling to continue his or her relationship with Agenus, our business may be adversely impacted. We have an employment agreement with Dr. Armen. Dr. Armen plays an important role in our day-to-day activities, and we do not carry key employee insurance policies for Dr. Armen or any other employee. The loss of the services of Dr. Armen or Dr. Buell, other key employees, and other scientific and medical advisors, and our inability to

find suitable replacements could result in delays in product development and harm our business. Dr. Buell also serves as Chief Executive Officer for MiNK Therapeutics, and Dr. Armen is Chairman of the Board of Directors of MiNK Therapeutics.

The bulk of our operations are conducted at our facilities in Cambridge, UK, Lexington, MA and Berkeley, CA. The Cambridge, UK, greater Boston area, and Northern California regions are headquarters to many other biopharmaceutical companies and many academic and research institutions. Competition for skilled personnel in our market is intense and may limit our ability to hire and retain highly qualified personnel on acceptable terms or at all.

Our future growth success depends to a significant extent on the skills, experience and efforts of our executive officers and key members of our clinical and scientific staff. We face intense competition for qualified individuals from other pharmaceutical, biopharmaceutical and biotechnology companies, as well as academic and other research institutions, particularly in the historically tight labor market prevailing currently. To attract and retain employees at our company, in addition to salary and cash incentives, we have provided stock options that vest over time. The value to employees of stock options that vest over time may be 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, scientific and development teams may terminate their employment with us on short notice. Employment of our key employees is at-will, which means that any of our employees could leave our employment at any time, with or without notice. We may be unable to retain our current personnel or attract or assimilate other highly qualified management and clinical personnel in the future on acceptable terms. The loss of any or all of these individuals could harm our business and could impair our ability to support our collaboration partners or our growth generally.

Our internal computer systems, or those of our third-party CROs, CMOs, licensees, collaborators or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption in our business and operations or could subject us to sanctions and penalties that could have a material adverse effect on our reputation or financial condition.

Despite the implementation of security measures, our internal computer systems and those of our current and future CROs, CMOs, licensees, collaborators and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Potential vulnerabilities can also be exploited from inadvertent or intentional actions of our employees, third-party vendors, business partners, or by malicious third parties. Attacks of this nature are increasing in their frequency, levels of persistence, sophistication and intensity, and are being conducted by sophisticated and organized groups and individuals with a wide range of motives (including, but not limited to, industrial espionage) and expertise, including organized criminal groups, “hacktivists,” nation states and others. In July 2020, the United States Government charged a pair of Chinese hackers working on behalf of China’s intelligence service in relation to the hacking of U.S. based biotechnology companies researching COVID-19 vaccines. We anticipate that U.S. companies may also be targeted by Russia and/or its supporters as the result of the U.S.’s support of Ukraine. In addition to the extraction of sensitive information, such attacks could include the deployment of harmful malware, ransomware, denial-of-service attacks, social engineering and other means to affect service reliability and threaten the confidentiality, integrity and availability of information. In addition, the prevalent use of mobile devices increases the risk of data security incidents. While we are not aware of any such material system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our development programs and our business operations. For example, the loss of clinical trial data from completed, on-going or future clinical trials could result in delays in our regulatory approval efforts and significant costs to recover or reproduce the data. Likewise, we rely on third parties to manufacture certain of our drug candidates and conduct clinical trials, and similar events relating to their computer systems could also have a material adverse effect on our business. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liabilities and the further development and commercialization of our product candidates could be delayed. We do not maintain cyber liability insurance and would therefore have no coverage for any losses resulting from any data security incident.

We use and store customer, vendor, employee and business partner and, in certain instances patient, personally identifiable information in the ordinary course of our business. We are subject to various domestic and international privacy and security regulations, including but not limited to the HIPAA, which mandates, among other things, the adoption of uniform standards for the electronic exchange of information in common healthcare transactions, as well as standards relating to the privacy and security of individually identifiable health information, which require the adoption of administrative, physical and technical safeguards to protect such information. In addition, many states have enacted comparable laws addressing the privacy and security of health information, some of which are more stringent than HIPAA. Failure to comply with these standards, or a computer security breach or cyber-attack that affects our systems or results in the unauthorized release of proprietary or personally identifiable information, could subject us to criminal penalties and civil sanctions, and our reputation could be materially damaged, and our operations could be impaired. We may also be exposed to a risk of loss or litigation and potential liability, which could have a material adverse effect on our business, results of operations and financial condition.

Natural or man-made calamities, or public health crises, could disrupt our business and materially adversely affect our operations and those of our strategic partners.

Our operations, and those of our CROs, CMOs, and other contractors and consultants together with regulatory agencies such as the FDA or EMA, could be subject to earthquakes, power shortages, telecommunications failures, water shortages, floods, hurricanes, typhoons, fires, extreme weather conditions, medical epidemics and other natural or man-made disasters or business interruptions. The occurrence of any of these business disruptions could prevent us, or our collaborators and business partners or regulators, from using all or a significant portion of our, or their, facilities or disrupt our supply chain, and, it may be difficult or, in certain cases, impossible for us to continue certain activities, such as for example our manufacturing capabilities, for a substantial period of time. The disaster recovery and business continuity plans we have in place currently are limited and are unlikely to prove adequate in the event of a serious disaster or similar event. We may incur substantial expenses and delays as a result of the limited nature of our disaster recovery and business continuity plans, which could have a material adverse effect on our business. We rely in part on third-party manufacturers to produce and process some of our product candidates. Our ability to obtain some of our clinical supplies of our product candidates could be disrupted if the operations of these suppliers are affected by a man-made or natural disaster or other business interruption.

We own an antibody pilot plant manufacturing facility and in November 2020, entered into a long-term lease in Emeryville, CA for cGMP commercial manufacturing space. Construction of this end-to-end 83,000sqft. GMP clinical & commercial biologics manufacturing facility (from cell line development through Drug Product fill & finish, packaging and labeling) is being commissioned. These locations are in an area of seismic activity near active earthquake faults and active wildfire activity. We do not maintain earthquake insurance coverage for our owned and leased properties in Berkeley, CA or Emeryville, CA.

In March 2020, we put in place a number of protective measures in response to the COVID-19 pandemic that have since been lifted. We revisited the various health and safety measures on a regular basis as the pandemic evolved, and we could take additional action if instructed by national, state and local governmental agencies or as we deem necessary to protect our employees. These measures resulted, and any future actions may result, in potential disruption to our business. Our employees are also impacted by the local government regulations that impact schools and other public services for lengthy periods of time. Not all of our employees are able to perform their duties or function remotely.

The operations of our strategic partners could also be impacted by calamities or public health crises, which could materially and adversely affect our cash resources and operations. For instance, at the beginning of 2020, we projected receipt of approximately \$60.0 million of cash milestone payments from existing partners in 2020. Although we did receive \$25.1 million of this in 2020, as a result of the impact of COVID-19 on our partner's programs and trials, the remaining \$35.0 million was delayed and not received in 2020, which impacts our cash runway and ability to fund our operations. Additional delays resulting from COVID-19 or other crises are likely to materially adversely affect our business.

Although we do not expect Russia's invasion of Ukraine to materially impact our global operations, the war may impact our business, and that of our wholly-owned, independently-operated subsidiary Atlant Clinical based in Moscow, Russia. We have employees in Russia that may be adversely affected by the war. The war may make it difficult for these employees to work, travel and may result in disruption to certain programs and timelines as well as future business opportunities. The Russian invasion of Ukraine may also adversely impact the ability of our existing strategic partners to conduct business in the Ukraine and Russia.

Failure to realize the anticipated benefits of our strategic acquisitions and licensing transactions could adversely affect our business, operations and financial condition.

An important part of our business strategy has been to identify and advance a pipeline of product candidates by acquiring and in-licensing product candidates, technologies and businesses that we believe are a strategic fit with our existing business. Since we acquired 4-AB in 2014, we have completed numerous additional strategic acquisitions and licensing transactions. The ultimate success of these strategic transactions entails numerous operational and financial risks, including:

- higher than expected development and integration costs;
- difficulty in combining the technologies, operations and personnel of acquired businesses with our technologies, operations and personnel;
- exposure to unknown liabilities;
- difficulty or inability to form a unified corporate culture across multiple office sites both nationally and internationally;

- inability to retain key employees of acquired businesses;
- disruption of our business and diversion of our management’s time and attention; and
- difficulty or inability to secure financing to fund development activities for such acquired or in-licensed product candidates, technologies or businesses.

We have limited resources to integrate acquired and in-licensed product candidates, technologies and businesses into our current infrastructure, and we may fail to realize the anticipated benefits of our strategic transactions. Any such failure could have an adverse effect on our business, operations and financial condition.

Our subsidiary, MiNK, successfully closed an IPO in October 2021. We have made substantial investments in MiNK. There is no guarantee that it will be able to continue to attract funding from other sources, and, even if the business receives such funding, there is no guarantee that it will be successful.

MiNK closed an IPO in October 2021. We own 26,332,958 shares, representing approximately 78% of MiNK’s common stock. There is no guarantee that MiNK will be able to attract external funding in the future. If funding is available, there is no guarantee that it will be on attractive or acceptable terms, or that it will be adequate to advance the business to an inflection point for additional funding. Similarly, there is no guarantee that partnership opportunities will be available on attractive terms, if at all. Even if adequate funding and partnership opportunities are available, there is no guarantee that MiNK will be successful in advancing one or more product candidates through clinical development.

We have previously disclosed our interest in potentially issuing a dividend to Agenus’ stockholders in the form of stock of MiNK or otherwise distributing MiNK shares to Agenus stockholders. There is no guarantee that any such dividend or distribution will be tax-free or that it will be issued at all, or the timing thereof. If we issue a dividend or distribution in the form of stock, there could be adverse tax consequences for certain of our stockholders.

Risks Related to our Common Stock

The trading volume and public trading price of our common stock has been volatile.

During the period from our initial public offering on February 4, 2000 to December 31, 2022, and the twelve-months ended December 31, 2022, the closing price of our common stock has fluctuated between \$1.30 (or \$0.22 pre-reverse stock split) and \$315.78 (or \$52.63 pre-reverse stock split) per share and \$1.30 and \$3.47 per share, respectively. The average daily trading volume for the twelve-months ended December 31, 2022 was approximately 4,538,552 shares. The market in general, and biotechnology companies in particular, may experience significant price and volume fluctuations that are often unrelated to the operating performance of individual companies. In addition to general market volatility, many factors may have a significant adverse effect on the market price of our stock, including:

- continuing operating losses, which we expect over the next several years if we are able to transition to a commercial organization;
- announcements of decisions made by public officials or delays in any such announcements;
- results of our pre-clinical studies and clinical trials or delays in anticipated timing;
- delays in our regulatory filings or those of our partners;
- announcements of new collaboration agreements with strategic partners or developments by our existing collaboration partners;
- announcements of acquisitions;
- announcements of technological innovations, new commercial products, failures of products, or progress toward commercialization by our competitors or peers;
- failure to realize the anticipated benefits of acquisitions;
- developments concerning proprietary rights, including patent and litigation matters;
- publicity regarding actual or potential results with respect to product candidates under development;
- quarterly fluctuations in our financial results, including our average monthly cash used in operating activities;

- variations in the level of expenses related to any of our product candidates or clinical development programs;
- additions or departures of key management or scientific personnel;
- conditions or trends in the biopharmaceutical, biotechnology and pharmaceutical industries generally;
- other events or factors, including those resulting from war, incidents of terrorism, natural disasters or responses to these events;
- changes in accounting principles;
- general economic and market conditions and other factors that may be unrelated to our operating performance or the operating performance of our competitors, including changes in market valuations of similar companies; and
- sales of common stock by us or our stockholders in the future, as well as the overall trading volume of our common stock.

In the past, securities class action litigation has often been brought against a company following a significant decline in the market price of its securities. This risk is especially relevant for us because many biopharmaceutical, biotechnology and pharmaceutical companies experience significant stock price volatility.

The trading market for our common stock will depend in part on the research and reports that securities or industry analysts publish about us or our business. If one or more of the analysts who covers us downgrades our stock, or publishes inaccurate or unfavorable research about our business, our stock price would likely decline. If one or more of these analysts ceases coverage of us or fails to publish reports on us regularly, demand for our stock could decrease, which could cause our stock price and trading volume to decline.

The invasion of Ukraine by Russia has caused worldwide market volatility to markets. Until there is a resolution to the conflict, we anticipate that the war may continue to cause market volatility.

We do not intend to pay cash dividends on our common stock and, consequently your ability to obtain a return on your investment will depend on appreciation in the price of our common stock.

We have never declared or paid any cash dividend on our common stock and do not intend to do so in the foreseeable future. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business. Therefore, the success of an investment in shares of our common stock will depend upon any future appreciation in their value. There is no guarantee that shares of our common stock will appreciate in value or maintain their current value.

Failure to maintain effective internal controls in accordance with Section 404 of the Sarbanes-Oxley Act of 2002 and to comply with changing regulation of corporate governance and public disclosure could have a material adverse effect on our operating results and the price of our common stock.

The Sarbanes-Oxley Act of 2002 and rules adopted by the SEC and Nasdaq have resulted in significant costs to us. In particular, our efforts to comply with Section 404 of the Sarbanes-Oxley Act of 2002 and related regulations regarding the required assessment of our internal control over financial reporting, and our independent registered public accounting firm's audit of internal control over financial reporting, have required commitments of significant management time. We expect these commitments to continue.

Our internal control over financial reporting (as defined in Rules 13a-15 of the Exchange Act) is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our consolidated financial statements for external purposes in accordance with U.S. GAAP. Because of its inherent limitations, internal control over financial reporting may not prevent or detect all deficiencies or weaknesses in our financial reporting. While our management has concluded that there were no material weaknesses in our internal control over financial reporting as of December 31, 2022, our procedures are subject to the risk that our controls may become inadequate because of changes in conditions or as a result of a deterioration in compliance with such procedures. No assurance is given that our procedures and processes for detecting weaknesses in our internal control over financial reporting will be effective.

Changing laws, regulations and standards relating to corporate governance and public disclosure, are creating uncertainty for companies. Laws, regulations and standards are subject to varying interpretations in some cases due to their lack of specificity, and as a result, their application in practice may evolve over time as new guidance is provided, which could result in continuing uncertainty regarding compliance matters and higher costs caused by ongoing revisions to disclosure and governance practices. If we fail to comply with these laws, regulations and standards, our reputation may be harmed, and we might be subject to sanctions or

investigation by regulatory authorities, such as the SEC. Any such action could adversely affect our operating results and the market price of our common stock.

The sale of a significant number of shares could cause the market price of our stock to decline.

The sale by us or the resale by stockholders of a significant number of shares of our common stock could cause the market price of our common stock to decline. As of March 15, 2023, we had 332,513,275, shares of common stock outstanding. Certain of these shares are subject to sales volume and other limitations. We have filed registration statements to permit the sale of approximately 70,200,000 shares of common stock under our equity incentive plans, and to permit the sale of 1,500,000 shares of common stock under our 2015 Inducement Equity Plan. We have also filed registration statements to permit the sale of approximately 1,167,000 shares of common stock under our Employee Stock Purchase Plan, to permit the sale of 775,000 shares of common stock under our Directors' Deferred Compensation Plan, to permit the sale of approximately 31,100,319 shares of common stock pursuant to various private placement agreements and to permit the sale of up to 200,000,000 shares of our common stock pursuant to our At Market Issuance Sales Agreement. As of December 31, 2022, an aggregate of approximately 152,251,882 of these shares remained available for sale. As part of our collaboration with Betta Pharmaceuticals, we completed a private placement of 4,962,779 shares of common stock in July 2020. As part of our collaboration with Gilead, we completed a private placement of 11,111,111 shares of common stock in January 2019, and on October 25, 2019, we filed a Registration Statement on Form S-3 to register the resale of these shares by Gilead, as required under our agreement. In addition, we may be obligated in the future to pay certain contingent milestones payments, payable at our election in cash or shares of our common stock of up to \$30.0 million in the aggregate. If we elect to pay any of these contingent milestones in shares, we are obligated to file registration statements covering any such shares. The market price of our common stock may decrease based on the expectation of such sales.

As of December 31, 2022, warrants to purchase approximately 1,980,000 shares of our common stock with a weighted average exercise price per share of \$2.87 were outstanding.

As of December 31, 2022, options to purchase 35,984,967 shares of our common stock with a weighted average exercise price per share of \$3.51 were outstanding. These options are subject to vesting that occurs over a period of up to four years following the date of grant. As of December 31, 2022, we had 21,575,514 vested options and 355,802 non-vested shares outstanding.

As of December 31, 2022, our outstanding shares of Series A-1 Convertible Preferred Stock were convertible into 333,333 shares of our common stock.

We may issue additional common stock, preferred stock, restricted stock units, or securities convertible into or exchangeable for our common stock. Furthermore, substantially all shares of common stock for which our outstanding stock options or warrants are exercisable are, once they have been purchased, eligible for immediate sale in the public market. The issuance of additional common stock, preferred stock, restricted stock units, or securities convertible into or exchangeable for our common stock or the exercise of stock options or warrants would dilute existing investors and could adversely affect the price of our securities. In addition, such securities may have rights senior to the rights of securities held by existing investors.

Anti-takeover provisions under our charter documents and Delaware law could delay or prevent a change of control which could limit the market price of our common stock and may prevent or frustrate attempts by our stockholders to replace or remove our current management.

Our certificate of incorporation and bylaws contain provisions that could make it more difficult for a third party to acquire us without the consent of our Board of Directors. Our certificate of incorporation provides for a staggered board and removal of directors only for cause. Accordingly, stockholders may elect only a minority of our Board at any annual meeting, which may have the effect of delaying or preventing changes in management. In addition, under our certificate of incorporation, our Board of Directors may issue additional shares of preferred stock and determine the terms of those shares of stock without any further action by our stockholders. Our issuance of additional preferred stock could make it more difficult for a third party to acquire a majority of our outstanding voting stock and thereby effect a change in the composition of our Board of Directors. Our certificate of incorporation also provides that our stockholders may not take action by written consent. Our bylaws require advance notice of stockholder proposals and director nominations and permit only our president or a majority of the Board of Directors to call a special stockholder meeting. These provisions may have the effect of preventing or hindering attempts by our stockholders to replace our current management. In addition, Delaware law prohibits a corporation from engaging in a business combination with any holder of 15% or more of its capital stock until the holder has held the stock for three years unless, among other possibilities, the board of directors approves the transaction. Our Board of Directors may use this provision to prevent changes in our management. Also, under applicable Delaware law, our Board of Directors may adopt additional anti-takeover measures in the future.

These anti-takeover provisions and other provisions in our certificate of incorporation and bylaws could make it more difficult for stockholders or potential acquirers to obtain control of our board of directors or initiate actions that are opposed by the then-current board of directors and could also delay or impede a merger, tender offer or proxy contest involving our company. These provisions could also discourage proxy contests and make it more difficult for our stockholders and other stockholders to elect directors of their choosing or cause us to take other corporate actions they desire. Any delay or prevention of a change of control transaction or changes in our board of directors could cause the market price of our common stock to decline.

We have broad discretion in the use of our existing cash, cash equivalents and investments and may not use them effectively.

Our management has broad discretion in the application of our cash, cash equivalents and investments. Because of the number and variability of factors that will determine our use of our cash, cash equivalents and investments, their ultimate use may vary substantially from their currently intended use. Our management might not apply our cash, cash equivalents and investments in ways that ultimately increase the value of our stockholders investment. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may invest our cash in short-term, investment- grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders. If we do not use our resources in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

If securities or industry analysts do not continue to publish research or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock depends in part on the research and reports that securities or industry analysts publish about us or our business. If one or more of the analysts who covers us downgrades our stock or publishes inaccurate or unfavorable research about our business, our stock price may decline. If one or more of these analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We lease our main research and development, manufacturing and corporate offices in Lexington, Massachusetts occupying approximately 82,000 square feet. This lease agreement terminates in August 2033.

We own a manufacturing facility of approximately 24,000 square feet in Berkeley, California that is used in the production and manufacture of antibody product candidates.

In November 2020, we entered into a long-term lease in Emeryville, CA for cGMP commercial manufacturing space. Construction of this end-to-end 83,000sqft. GMP clinical and commercial biologics manufacturing facility (from cell line development through Drug Product fill & finish, packaging and labeling) is being commissioned for GMP manufacturing. This lease terminates in December 2036 with the option to renew for two additional ten-year terms.

We also lease research and office facilities in Cambridge, United Kingdom. This lease terminates in November 2025.

We believe substantially all of our property and equipment is in good condition and that we have sufficient capacity to meet our current operational needs. We do not anticipate experiencing significant difficulty in retaining occupancy of any of our research and development, manufacturing or office facilities and will do so through lease renewals prior to expiration or through replacing them with equivalent facilities.

Item 3. Legal Proceedings

We are not party to any material legal proceedings.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

Our common stock is currently listed on The Nasdaq Capital Market under the symbol “AGEN.” As of March 1, 2023, there were 488 holders of record and 46,007 beneficial holders of our common stock.

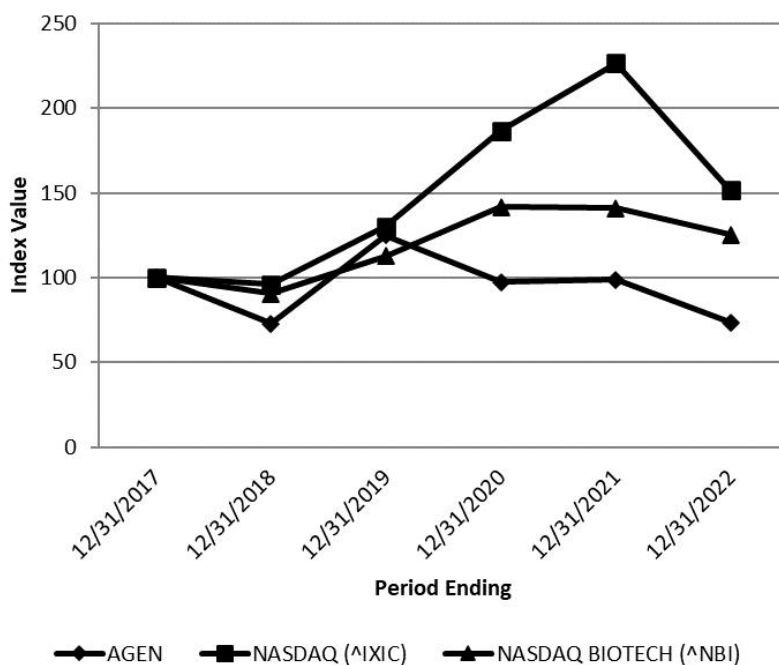
We have never paid cash dividends on our common stock, and we do not anticipate paying any cash dividends in the foreseeable future. We currently intend to retain future earnings, if any, for the future operation and expansion of our business. Any future payment of dividends on our common stock will be at the discretion of our Board of Directors and will depend upon, among other things, our earnings, financial condition, capital requirements, level of indebtedness, and other factors that our Board of Directors deem relevant.

Stock Performance

The following graph shows the cumulative total stockholder return on our common stock over the period spanning December 31, 2017 to December 31, 2022, as compared with that of the Nasdaq Stock Market (U.S. Companies) Index and the Nasdaq Biotechnology Index, based on an initial investment of \$100 in each on December 31, 2017. Total stockholder return is measured by dividing share price change plus dividends, if any, for each period by the share price at the beginning of the respective period and assumes reinvestment of dividends.

This stock performance graph shall not be deemed “filed” with the SEC or subject to Section 18 of the Exchange Act, nor shall it be deemed incorporated by reference in any of our filings under the Securities Act of 1933, as amended (the “Securities Act”).

COMPARISON OF CUMULATIVE TOTAL RETURN OF AGENUS INC.,
NASDAQ STOCK MARKET (U.S. COMPANIES) INDEX
AND NASDAQ BIOTECHNOLOGY INDEX



	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022
Agenus Inc.	100.00	73.01	124.85	97.55	98.77	73.62
Nasdaq Stock Market (U.S. Companies) Index	100.00	96.12	129.97	186.69	226.63	151.61
Nasdaq Biotechnology Index	100.00	90.68	112.81	141.78	140.88	125.52

Item 6. [Reserved]

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

Overview

Agenus Inc. (including its subsidiaries, collectively referred to as "Agenus," the "Company," "we," "us," and "our") is a clinical-stage immunology ("I-O") company advancing an extensive pipeline of immune modulatory antibodies, adoptive cell therapies (through our subsidiary MiNK Therapeutics, Inc. ("MiNK")) and vaccine adjuvants (through our subsidiary SaponiQx, Inc. ("SaponiQx")), to fight cancer and infections. Our business is designed to drive success in I-O through speed, innovation and effective combination therapies. We believe that combination therapies and a deep understanding of each patient's cancer will drive substantial expansion of the patient population benefiting from current I-O therapies. In addition to a diverse pipeline, we have assembled fully integrated end-to-end capabilities including novel target discovery, antibody generation, cell line development and current good manufacturing practice ("cGMP") clinical manufacturing. We believe that these fully integrated capabilities enable us to produce novel candidates on timelines that are shorter than the industry standard. Leveraging our science and capabilities, we have forged important partnerships to advance our innovation.

We are developing a comprehensive I-O portfolio driven by the following platforms and programs, which we intend to utilize individually and in combination:

- our multiple antibody discovery platforms, including our proprietary display technologies, designed to drive the discovery of future antibody candidates;
- our antibody candidate programs, such as our lead candidate botensilimab (AGEN1181);
- our saponin-based vaccine adjuvant platform under our subsidiary SaponiQx, principally including our QS-21 STIMULON adjuvant ("QS-21 STIMULON"); and
- our subsidiary, MiNK, which has a pipeline of novel allogeneic invariant natural killer T cell ("iNKT") therapies to treat cancer and other immune-mediated diseases.

We assess development, commercialization and partnering strategies for each of our product candidates periodically based on several factors, including pre-clinical and clinical trial results, competitive positioning and funding requirements and resources. Our lead program, botensilimab (AGEN1181), is advancing in multiple clinical programs which we have designed to support regulatory pathways for accelerated development with botensilimab as a monotherapy and in combination with balstilimab. We initiated worldwide trials for botensilimab in microsatellite stable colorectal cancer, melanoma and pancreatic cancer in 2022.

In October 2021, we announced the withdrawal of our biologics license application ("BLA") for balstilimab monotherapy to treat second-line cervical cancer. Our decision came at the recommendation of the United States Food and Drug Administration ("FDA") following the full approval of pembrolizumab, four months earlier than the FDA goal date. The BLA submission for balstilimab was accepted for filing and received Fast Track and Priority Review designation from the FDA, with a target action date of December 16, 2021. As part of the BLA review process, we successfully completed three FDA inspections, with no cited issues, concerns, or Form-483s. Based on this change to the treatment landscape with another company's full approval, we are no longer pursuing U.S. registration for the combination of balstilimab and zalifrelimab in second-line cervical cancer.

We have formed collaborations with companies such as Bristol-Myers Squibb Company ("BMS"), Betta Pharmaceuticals Co., Ltd. ("Betta"), Gilead Sciences, Inc. ("Gilead"), Incyte Corporation ("Incyte") and Merck Sharpe & Dohme ("Merck"). Through these alliances, as well as our own internal programs, we currently have more than a dozen antibody programs in pre-clinical or clinical development.

Pursuant to our collaboration agreement with Incyte, we have exclusively licensed to Incyte monospecific antibodies targeting GITR, OX40, TIM-3 and LAG-3, which Incyte is currently advancing in various clinical trials, as well as an additional undisclosed target that Incyte is advancing in preclinical studies. Under the terms of our agreement, Incyte is responsible for all future development expenses, and we are eligible to receive up to an additional \$450.0 million in potential milestone payments plus royalties on any future sales. In October 2022, Incyte notified us of their intent to terminate the OX40 program, effective October 2023. On termination the rights to the OX40 program revert back to us. Pursuant to our collaboration and license agreement with Merck, we exclusively licensed to Merck a monospecific antibody targeting ILT4, which Merck is advancing in a Phase 2 clinical trial. Under the terms of our agreement, Merck is responsible for all future development expenses, and we are eligible to receive up to an additional \$85.0 million in potential milestone payments plus royalties on any future sales. In September 2018, we, through our wholly-owned subsidiary, Agenus Royalty Fund, LLC, entered into a royalty purchase agreement (the "XOMA Royalty Purchase Agreement") with XOMA (US) LLC ("XOMA"). Pursuant to the terms of the XOMA Royalty Purchase Agreement, XOMA purchased 33% of all future royalties and 10% of all future milestone payments that we are entitled to receive from Incyte and Merck, net of certain of our

obligations to a third party. After taking into account our obligations under the XOMA Royalty Purchase Agreement, as of December 31, 2022, we remain eligible to receive up to \$405.0 million and \$76.5 million in potential development, regulatory and commercial milestones from Incyte and Merck, respectively.

In December 2018, we entered into a series of agreements with Gilead to collaborate on the development and commercialization of up to five novel I-O therapies (the “Gilead Collaboration Agreements”). Pursuant to the Gilead Collaboration Agreements, Gilead received worldwide exclusive rights to our bispecific antibody, AGEN1423, as well as the exclusive option to exclusively license AGEN1223, a bispecific antibody, and AGEN2373, a monospecific antibody. All three assets have entered clinical development. In November 2020, Gilead elected to return AGEN1423 to us and to voluntarily terminate the license agreement effective as of February 4, 2021. In the third quarter of 2021, we ceased development of AGEN1223 and in October 2021 the AGEN1223 option and license agreement was formally terminated. The AGEN2373 option agreement remains in place, and we are responsible for developing the program up to the option decision point, at which time Gilead may acquire exclusive rights to the program on option exercise. We have the right to opt-in to share Gilead’s development and commercialization costs in the United States in exchange for a profit (loss) share on a 50:50 basis and revised milestone payments. In March 2022, we received a \$5.0 million clinical milestone under the AGEN2373 option agreement. Pursuant to the terms of the AGEN2373 option agreement, we remain eligible to receive a \$50.0 million option exercise fee and, if exercised, up to an additional \$520.0 million in aggregate milestone payments, as well as royalties on any future sales.

In June 2020, we entered into a license and collaboration agreement (the “Beta License Agreement”) with Beta, pursuant to which we granted Beta an exclusive license to develop, manufacture and commercialize balstilimab and zalifrelimab in Republic of China, Hong Kong, Macau and Taiwan (“Greater China”). Under the terms of the Beta License Agreement, we received \$15.0 million upfront and are eligible to receive up to \$100.0 million in milestone payments plus royalties on any future sales in Greater China.

In May 2021, we entered into a License, Development and Commercialization Agreement (“BMS License Agreement”) with BMS to collaborate on the development and commercialization of our pre-clinical proprietary anti-TIGIT bispecific antibody program AGEN1777. Under the BMS License Agreement, we granted BMS an exclusive worldwide license under certain of our intellectual property rights to develop, manufacture and commercialize AGEN1777 and its derivatives in all fields; provided, we retained an option to access the licensed antibodies for use in clinical studies in combination with certain of our other pipeline assets subject to certain restrictions. Pursuant to the BMS License Agreement, we received a non-refundable upfront cash payment of \$200.0 million in July 2021 and are eligible to receive up to \$1.36 billion in aggregate development, regulatory and commercial milestone payments plus tiered royalties. In exchange, BMS is responsible for all of the development, regulatory approval, manufacturing and commercialization costs with respect to products containing AGEN1777. We have the option, but not the obligation, to co-fund a minority of the global development costs of products containing AGEN1777 or its derivatives, in exchange for increased tiered royalties. Finally, we also have the option to co-promote AGEN1777 in the U.S. In October 2021, we announced that the first patient was dosed in the AGEN1777 Phase 1 clinical trial, triggering the achievement of a \$20.0 million milestone.

In September 2021, we announced the launch of SaponiQx to spearhead innovation in novel adjuvant discovery and vaccine design, including in relation to our saponin-based adjuvants. We also announced our partnership with Ginkgo Bioworks, Inc. to develop SaponiQx’s novel saponin products from sustainably sourced raw materials, with a goal to meet the current demands placed on the vaccine industry for pandemic vaccines. Our QS-21 STIMULON adjuvant is partnered with GlaxoSmithKline (“GSK”) and is a key component in multiple GSK vaccine programs. These programs are in various stages, with the most advanced being GSK’s approved shingles vaccine, Shingrix, which was approved in the United States by the FDA in October 2017. In January 2018, we entered into a Royalty Purchase Agreement with Healthcare Royalty Partners III, L.P. and certain of its affiliates (together, “HCR”), pursuant to which HCR purchased 100% of our worldwide rights to receive royalties from GSK on GSK’s sales of vaccines containing our QS-21 STIMULON adjuvant. We do not incur clinical development costs for products partnered with GSK. We were also entitled to receive up to \$40.35 million in milestone payments from HCR based on sales of GSK’s vaccines as follows: (i) \$15.1 million upon reaching \$2.0 billion last-twelve-months net sales any time prior to 2024 (the “First HCR Milestone”) and (ii) \$25.25 million upon reaching \$2.75 billion last-twelve-months net sales any time prior to 2026 (the “Second HCR Milestone”). We received the First HCR Milestone after GSK’s net sales of Shingrix for the twelve months ended December 31, 2019 exceeded \$2.0 billion. The Second HCR Milestone was received in 2022 after GSK’s net sales of Shingrix for the twelve months ended June 30, 2022 exceeded \$2.75 billion.

Our business activities include product research and preclinical and clinical development, intellectual property prosecution, manufacturing, regulatory and clinical affairs, corporate finance and development activities, and support of our collaborations. Our product candidates require successful clinical trials and approvals from regulatory agencies, as well as acceptance in the marketplace. Part of our strategy is to develop and commercialize some of our product candidates by continuing our existing arrangements with academic and corporate collaborators and licensees and by entering into new collaborations.

MiNK is focused on the development of unmodified iNKT cell therapies for the treatment of cancer and other life-threatening immune-mediated diseases. MiNK's most advanced product candidate, agentT-797, is an off-the-shelf, allogeneic, native iNKT cell therapy. MiNK has commenced and enrolled a Phase 1 clinical trial for the treatment of solid tumors as a monotherapy and in combination with commercially approved checkpoint inhibitors (KEYTRUDA® and OPDIVO®). MiNK is also evaluating agentT-797 as a variant-agnostic therapy for patients with viral acute respiratory distress syndrome ("ARDS") and published top-line data from this Phase 1 clinical trial in the fourth quarter of 2021, reporting a 77% survival rate in older, mechanically ventilated patients with COVID-19 respiratory failure. In October 2021, MiNK completed an initial public offering of 3,333,334 shares of its common stock, trading on the Nasdaq Capital Market under the ticker symbol "INKT", at a public offering price of \$12.00 per share. The gross proceeds from the offering, before deducting underwriting discounts and commissions and other offering expenses, were approximately \$40.0 million. Subsequently, the underwriters in the initial public offering exercised their option to acquire an additional 500,000 shares at the public offering price and such shares were delivered on November 3, 2021. MiNK has exclusively licensed the INKT technology from Agenus and retains the rights to develop and expand a proprietary pipeline of engineered CAR-INKTs, TCRs, and INKT bispecific engagers.

Our common stock is currently listed on The Nasdaq Capital Market under the symbol "AGEN."

Our research and development expenses for the years ended December 31, 2022, 2021, and 2020, were \$186.7 million, \$178.6 million, and \$142.6 million, respectively. We have incurred significant losses since our inception. As of December 31, 2022, we had an accumulated deficit of \$1.71 billion. We are likely to continue to incur losses until we become a commercial company generating profits.

During the past five years, we have successfully financed our operations through income and revenues generated from corporate partnerships, advance royalty sales and issuance of equity. Based on our current plans and projections, we believe our year end cash resources of \$193.4 million as of December 31, 2022, will be sufficient to satisfy our liquidity requirements for more than one year from when these financial statements were issued. Management continues to monitor the Company's liquidity position and has the flexibility to adjust spending as needed in order to preserve and extend liquidity. We continuously evaluate the likelihood of success of our programs. As such, our decisions to continue to fund or eliminate funding of each of our programs are predicated on these determinations, on an ongoing basis. We are prepared to discontinue funding of any activities that do not impact our core priorities if they do not prove to be feasible, and to restrict capital expenditures and/or reduce the scale of our operations. We expect our potential sources of funding to include: (1) collaborations, out-licensing and/or partnering opportunities for our portfolio programs and product candidates with multiple parties, (2) milestone payments from our existing partnerships, (3) consummating additional third-party agreements, (4) selling assets, (5) securing project financing and/or (6) selling equity securities.

Historical Results of Operations

The comparison of 2021 to 2020 results has been omitted from this Form 10-K but can be found in our Form 10-K for the year ended December 31, 2021 – "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" filed on March 1, 2022.

Year Ended December 31, 2022 Compared to the Year Ended December 31, 2021

Research and development revenue

We recognized research and development ("R&D") revenue of approximately \$17.0 million and \$244.4 million during the years ended December 31, 2022 and 2021, respectively. R&D revenues for the year ended December 31, 2022, primarily consisted of a \$5.0 million milestone and \$9.5 million related to the recognition of deferred revenue, both earned under our Gilead Collaboration Agreements. R&D revenues for the year ended December 31, 2021, primarily consisted of \$220.0 million related to a non-refundable upfront license fee and milestone earned under our BMS License Agreement and \$22.4 million related to the recognition of deferred revenue earned under our Gilead Collaboration Agreements.

Non-cash royalty revenue related to the sale of future royalties

In January 2018, we sold 100% of our worldwide rights to receive royalties from GSK on sales of GSK's vaccines containing our QS-21 STIMULON adjuvant to HCR. As described in Note 19 to our Consolidated Financial Statements, this transaction has been recorded as a liability that amortizes over the estimated life of our Royalty Purchase Agreement with HCR. As a result of this liability accounting, even though the royalties are remitted directly to HCR, we will record these royalties from GSK as revenue. Non-cash royalty revenue related to our agreement with GSK increased \$0.9 million, to approximately \$45.3 million for the year ended

December 31, 2022, from \$44.4 million for the year ended December 31, 2021, due to increased net sales of GSK's vaccines containing our QS-21 STIMULON adjuvant.

Royalty sales milestone revenue

We recognized royalty sales milestone revenue of approximately \$25.3 million for the year ended December 31, 2022, related to the achievement of the final milestone under our Royalty Purchase Agreement with HCR. This \$25.3 million milestone was achieved when sales of GSK's vaccines containing our QS-21 STIMULON exceeded \$2.75 billion for the 12 months ended June 30, 2022.

Research and development expense

R&D expense include the costs associated with our internal research and development activities, including compensation and benefits, occupancy costs, clinical manufacturing costs, contract research organization costs, costs of consultants, and related administrative costs. R&D expense increased 5% to \$186.7 million for the year ended December 31, 2022 from \$178.6 million for the year ended December 31, 2021. Increased expenses in the year ended December 31, 2022 primarily relate to a \$5.4 million increase in personnel related expenses, primarily due to increased headcount and increased share based compensation expense, a \$13.8 million increase in expenses attributable to the activities of our subsidiaries and a \$0.8 million increase in other research and development expenses. These increases were partially offset by a \$11.9 million decrease in third-party services and other expenses, largely due to the timing of expenses related to the advancement of our antibody programs.

General and administrative expense

General and administrative ("G&A") expense consists primarily of personnel costs, facility expenses, and professional fees. G&A expense increased 6% to \$81.0 million for the year ended December 31, 2022 from \$76.4 million for the year ended December 31, 2021. Increased general and administrative expense expenses in the year ended December 31, 2022 primarily relate to a \$8.4 million increase in expenses attributable to the activities of our subsidiaries and a \$2.7 million increase in other general and administrative expenses. These increases were partially offset by a \$4.1 million decrease in professional fees, primarily due to reduced commercial readiness activities, and a \$2.3 million decrease in personnel related expenses, primarily due to decreased share-based compensation expense.

Contingent purchase price consideration fair value adjustment

Contingent purchase price consideration fair value adjustment represents the change in the fair value of our contingent purchase price consideration during the year ended December 31, 2022, which mainly resulted from changes in our share price and changes in the credit spread since each reporting period end. The fair value of our contingent purchase price considerations is mainly based on estimates from a Monte Carlo simulation of our share price.

Non-operating income (expense)

Non-operating income increased \$7.5 million for the year ended December 31, 2022, from income of \$5.1 million for the year ended December 31, 2021, to income of \$12.6 million for the year ended December 31, 2022, primarily due to the recognition of a \$16.3 million gain on the sale of property, plant and equipment and a \$2.8 million gain on the partial forgiveness of a liability, partially offset by a \$6.1 million loss on the impairment of lease ROU assets in 2022, compared to the recognition of a \$3.4 million gain on the sale of property, plant and equipment and foreign currency exchange gains in 2021.

Interest expense, net

Interest expense, net decreased to \$61.9 million for the year ended December 31, 2022 from \$65.7 million for the year ended December 31, 2021, mainly due to decreased non-cash interest recorded in connection with our Royalty Purchase Agreement with HCR and increased interest income earned on our cash equivalents and short-term investments.

Inflation

We believe that inflation has not had a material adverse effect on our business, results of operations, or financial condition to date.

Research and Development Programs

For the year ended December 31, 2022, our R&D programs consisted largely of our CPM antibody programs as indicated in the following table (in thousands).

Research and Development Program	Product	For the Year Ended December 31,			Prior to 2020	Total
		2022	2021	2020		
Antibody programs*	Various	\$ 133,108	\$ 141,266	\$ 118,200	\$ 479,699	\$ 872,273
Vaccine adjuvant	QS-21					
	Stimulon	10,789	5,912	304	15,181	32,186
Cell therapies	Various	24,300	15,507	11,022	34,600	85,429
Other research and development programs	Various	18,494	15,923	13,091	448,077	495,585
Total research and development expenses		\$ 186,691	\$ 178,608	\$ 142,617	\$ 977,557	1,485,473

* Prior to 2014, costs were incurred by 4-AB, which we acquired in February 2014.

Research and development program costs include compensation and other direct costs plus an allocation of indirect costs, based on certain assumptions and our review of the status of each program. Our product candidates are in various stages of development and significant additional expenditures will be required if we start new clinical trials, encounter delays in our programs, apply for regulatory approvals, continue development of our technologies, expand our operations, and/or bring our product candidates to market. The total cost of any particular clinical trial is dependent on a number of factors such as trial design, length of the trial, number of clinical sites, number of patients, and trial sponsorship. The process of obtaining and maintaining regulatory approvals for new therapeutic products is lengthy, expensive, and uncertain. Because of the current stage of our product candidates, among other factors, we are unable to reliably estimate the cost of completing our research and development programs or the timing for bringing such programs to various markets or substantial partnering or out-licensing arrangements, and, therefore, when, if ever, material cash inflows are likely to commence.

Product Development Portfolio

Antibody Discovery Platforms and Immunotherapy Programs

Immunotherapies regulate the body's immune response to cancer, and have achieved positive outcomes in a number of cancers that were considered untreatable only a few years ago. Our pipeline includes several classes of immunotherapies:

1. checkpoint inhibitors, which remove the tumor's defenses that evade and suppress the immune system;
2. immune activators, which train and activate a patient's own immune cells for a potent and durable anti-cancer response; and
3. tumor microenvironment ("TME") conditioning agents, which reduce local immune-suppression and attract immune cells to the cancer site.

We possess a suite of antibody discovery platforms that are designed to drive the discovery of future antibody candidates. We are planning to employ a variety of techniques to identify and optimize monospecific and multispecific antibody candidates, internally.

We and our partners currently have more than fifteen antibody programs in pre-clinical or clinical development, which include our next generation anti-CTLA-4 antibody, botensilimab, an IgG1 anti-CTLA-4 antagonist, our anti-PD-1, balstilimab, and anti-CTLA-4, zalifrelimab, programs (both partnered with Beta in Greater China), our anti-CD137 (AGEN2373), which Gilead has an exclusive option to license exclusively, an anti-TIGIT bispecific antibody, AGEN1777, exclusively licensed to BMS, AGEN1571, an ILT2 monospecific antibody, and the following antibody programs all partnered with Incyte: anti-GITR (INCAGN1876), anti-LAG3 (INCAGN2385) and anti-TIM3 (INCAGN2390). For additional information regarding our antibody discovery platforms and immunotherapy programs, please read Part I-Item 1. "Business" of this Annual Report on Form 10-K.

QS-21 STIMULON Adjuvant

QS-21 STIMULON is an adjuvant, which is a substance added to a vaccine or other immunotherapy that is intended to enhance an immune response to the target antigens. QS-21 STIMULON is a natural product, a triterpene glycoside, or saponin, purified from

the bark of the Chilean soapbark tree, Quillaja saponaria. QS-21 STIMULON has the ability to stimulate an antibody-mediated immune response and has also been shown to activate cellular immunity. It has become a key component in the development of investigational preventive vaccine formulations across a wide variety of diseases. These studies have been carried out by academic institutions and pharmaceutical companies in the United States and internationally. A number of these studies have shown QS-21 STIMULON to be significantly more effective in stimulating immune responses than aluminum hydroxide or aluminum phosphate, the adjuvants most commonly used in approved vaccines in the United States today. In January 2019, we announced that the Bill & Melinda Gates Foundation awarded us a grant to develop an alternative, plant cell culture-based manufacturing process to ensure the continuous future supply of QS-21 STIMULON adjuvant, which we are pursuing in partnership with Phyton Biotech and Ginkgo Bioworks. For additional information regarding QS-21 STIMULON, please read Part I-Item 1. “Business” of this Annual Report on Form 10-K.

Cell Therapies

Our majority owned subsidiary, MiNK, is a focused on developing allogeneic invariant natural killer T (“iNKT”) cell therapies to treat cancer and other life-threatening immune diseases. iNKTs have a dual-mechanism of action with an internal targeting and homing device that modulates both arms of immunity, innate and adaptive. iNKTs combine the killing features of natural killer cells with the durable memory response of T cells. iNKT cells have been demonstrated to be highly effective in treating solid tumor cancers in their native form and MiNK has demonstrated that these cells can be further engineered or edited for super-targeting. For additional information regarding iNKT cell therapies, please read Part I-Item 1. “Business” of this Annual Report on Form 10-K.

Liquidity and Capital Resources

We have incurred annual operating losses since inception, and we had an accumulated deficit of \$1.71 billion as of December 31, 2022. We expect to incur significant losses over the next several years as we continue development of our technologies and product candidates, manage our regulatory processes, initiate and continue clinical trials, and prepare for potential commercialization of products. To date, we have financed our operations primarily through corporate partnerships, advance royalty sales and the issuance of equity. From our inception through December 31, 2022, we have raised aggregate net proceeds of approximately \$1.74 billion through the sale of common and preferred stock, the exercise of stock options and warrants, proceeds from our Employee Stock Purchase Plan, royalty monetization transactions, and the issuance of convertible and other notes.

We maintain an effective registration statement (the “Registration Statement”), covering common stock, preferred stock, warrants, debt securities and units. The Registration Statement includes prospectuses covering the offer, issuance and sale of up to 200 million shares of our common stock from time to time in “at-the-market offerings” pursuant to an At Market Issuance Sales Agreement (the “Sales Agreement”) with B. Riley Securities, Inc. as our sales agent. We sold approximately 45.1 million and 26.3 million shares of our common stock pursuant to the Sales Agreement during the year ended December 31, 2022 and the period of January 1, 2023 through March 10, 2023, respectively, and received aggregate net proceeds totaling \$147.8 million. As of March 10, 2023, approximately 66.7 million shares remained available for sale under the Sales Agreement.

Historically we have funded our operations largely from 1) cash received from partners and royalty financing transactions and 2) equity offerings. We transact at-the-market sales from time to time in order to manage our cash balances to make sure cash balances do not drop below a certain level based on our anticipated uses of cash. We execute at-the-market offerings based on market conditions and our stock price. We do not have in place a program whereby at-the-market offerings are executed automatically based on our trading volume.

As of December 31, 2022, we had debt outstanding of \$13.6 million in principal. In November 2022, we amended all of the outstanding 2015 Subordinated Notes, extending the due date by two years to February 2025.

Our cash, cash equivalents and short-term investments at December 31, 2022 were \$193.4 million, a decrease of \$113.6 million from December 31, 2021. Cash and cash equivalents of our subsidiary, MiNK, at September 30, 2022, were \$24.2 million. MiNK cash can only be accessed by Agenus through a declaration of a dividend by the MiNK Board of Directors or through settlement of intercompany balances.

During the past five years, we have successfully financed our operations through income and revenues generated from corporate partnerships, advance royalty sales and issuance of equity. Based on our current plans and projections, we believe our year end cash resources of \$193.4 million as of December 31, 2022, will be sufficient to satisfy our liquidity requirements for more than one year from when the financial statements included in this Annual Report on Form 10-K were issued.

Management continues to monitor the Company’s liquidity position and has the flexibility to adjust spending as needed in order to preserve and extend liquidity. We continuously evaluate the likelihood of success of our programs. As such, our decisions to continue to fund or eliminate funding of each of our programs are predicated on these determinations, on an ongoing basis. We are prepared to discontinue funding of any activities that do not impact our core priorities if they do not prove to be feasible, and to restrict capital expenditures and/or reduce the scale of our operations. We expect our potential sources of funding to include: (1) collaborations, out-licensing and/or partnering opportunities for our portfolio programs and product candidates with multiple parties, (2) milestone payments from our existing partnerships, (3) consummating additional third-party agreements, (4) selling assets, (5) securing project financing and/or (6) selling equity securities.

Our future cash requirements include, but are not limited to, supporting clinical trial and regulatory efforts and continuing our other research and development programs. Since inception, we have entered into various cancellable agreements with contract manufacturers, institutions, and clinical research organizations (collectively "third party providers") to perform pre-clinical activities and to conduct and monitor our clinical studies. Under these agreements, subject to the enrollment of patients and performance by the applicable third-party provider, we have estimated our total payments to be \$566.6 million over the term of the related activities. Through December 31, 2022, we have expensed \$457.8 million as research and development expenses and \$439.1 million has been paid under these agreements. The timing of expense recognition and future payments related to these agreements is subject to the enrollment of patients and performance by the applicable third-party provider. We plan to enter into additional agreements with third party providers and we anticipate significant additional expenditures will be required to initiate and advance our various programs.

Part of our strategy is to develop and commercialize some of our product candidates by continuing our existing collaboration arrangements with academic and collaboration partners and licensees and by entering into new collaborations. As a result of our collaboration agreements, we will not completely control the efforts to attempt to bring those product candidates to market. For example, our collaboration with Incyte for the development, manufacture and commercialization of checkpoint antibodies against certain targets is managed by a joint steering committee, which is controlled by Incyte.

Net cash (used in) provided by operating activities for the years ended December 31, 2022 and 2021 was (\$175.4) million and \$10.1 million, respectively. Our future ability to generate cash from operations will depend on achieving regulatory approval and market acceptance of our product candidates, achieving benchmarks as defined in existing collaboration agreements, and our ability to enter into new collaborations. Please see the “Note Regarding Forward-Looking Statements” of this Annual Report on Form 10-K and the risks highlighted under Part I-Item 1A. “Risk Factors” of this Annual Report on Form 10-K.

The table below summarizes our material cash requirements from known contractual and other obligations as of December 31, 2022 (in thousands).

	Total	Payments by Period			
		Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
Long-term debt (1)	\$ 15,853	\$ 1,671	\$ 14,182	\$ —	\$ —
Operating leases (2)	129,280	10,130	19,858	19,952	79,340
Finance leases (3)	27,721	11,004	16,717	—	—
Total	<u>\$ 172,854</u>	<u>\$ 22,805</u>	<u>\$ 50,757</u>	<u>\$ 19,952</u>	<u>\$ 79,340</u>

- (1) Includes fixed interest payments. See Note 18 of the notes to our consolidated financial statements contained elsewhere in this Annual Report on Form 10-K for further description of our debt.
- (2) The leases for our properties expire at various times between 2023 and 2036.
- (3) The amounts include payments for a lease that was signed but had not yet commenced as of December 31, 2022. See Note 17 of the notes to our consolidated financial statements contained elsewhere in this Annual Report on Form 10-K for further description of our leases.

Critical Accounting Policies and Estimates

The SEC defines “critical accounting policies” as those that require the application of management’s most difficult, subjective, or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain and may change in subsequent periods.

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. We

base those estimates on historical experience and on various assumptions that are believed to be reasonable under the circumstances. Actual results could differ from those estimates.

The following listing is not intended to be a comprehensive list of all of our accounting policies. Our significant accounting policies are described in Note 2 of the notes to our consolidated financial statements contained elsewhere in this Annual Report on Form 10-K. In many cases, the accounting treatment of a particular transaction is dictated by U.S. generally accepted accounting principles, with no need for our judgment in its application. There are also areas in which our judgment in selecting an available alternative would not produce a materially different result. We have identified the following as a critical accounting policy.

Non-cash Interest Expense on Liability Related to Sale of Future Royalties

In January 2018 we entered into the HCR Royalty Purchase Agreement with HCR. Pursuant to the terms of the HCR Royalty Purchase Agreement, we sold to HCR 100% of our worldwide rights to receive royalties from GSK on sales of GSK's vaccines containing our QS-21 STIMULON adjuvant. Although we sold all of our rights to receive royalties on sales of GSK's vaccines containing QS-21, as a result of our obligation to HCR, we recorded the proceeds from this transaction as a liability on our consolidated balance sheet that will be amortized using the interest method over the estimated life of the HCR Royalty Purchase Agreement. As a result, we impute interest on the transaction and record non-cash interest expense at the estimated interest rate. Our estimate of the interest rate under the agreement is based on the amount of royalty payments to be received by HCR over the life of the arrangement. We periodically assess the expected royalty payments to HCR from GSK using a combination of historical results and forecasts from market data sources. To the extent such payments are greater or less than our initial estimates or the timing of such payments is materially different than our original estimates, we will prospectively adjust the amortization of the liability. There are a number of factors that could materially affect the amount and timing of royalty payments from GSK, all of which are not within our control. Such factors include, but are not limited to, changing standards of care, the introduction of competing products, manufacturing or other delays, biosimilar competition, patent protection, adverse events that result in governmental health authority imposed restrictions on the use of the drug products, significant changes in foreign exchange rates, and other events or circumstances that could result in reduced royalty payments from GSK, all of which would result in a reduction of non-cash royalty revenues and the non-cash interest expense over the life of the HCR Royalty Purchase Agreement. Conversely, if sales of GSK's vaccines containing QS-21 are more than expected, the non-cash royalty revenues and the non-cash interest expense recorded by us would be greater over the life of the HCR Royalty Purchase Agreement.

Recent Accounting Pronouncements

Refer to Note 2 to our consolidated financial statements included within Item 8 of this Annual Report on Form 10-K for a description of recent accounting pronouncements applicable to our business.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Our primary market risk exposure is foreign currency exchange rate risk. International revenues and expenses are generally transacted by our foreign subsidiary and are denominated in local currency. Less than 0.1% of our cash used in operations for the both the years ended December 31, 2022 and 2021, was from a foreign subsidiary. Additionally, in the normal course of business, we are exposed to fluctuations in interest rates as we seek debt financing and invest excess cash. We are also exposed to foreign currency exchange rate fluctuation risk related to our transactions denominated in foreign currencies. We do not currently employ specific strategies, such as the use of derivative instruments or hedging, to manage these exposures. Our currency exposures vary but are primarily concentrated in the British Pound, Euro, and Swiss Franc, in large part due to our subsidiaries, Agenus UK Limited and AgenTus Therapeutics Limited, both with operations in England, AgenTus Therapeutics SA, a company formerly with operations in Belgium, and Agenus Switzerland a company formerly with operations in Switzerland. During the year ended December 31, 2022, there has been no material change with respect to our approach toward those exposures.

We had cash, cash equivalents and short-term investments at December 31, 2022 of \$193.4 million, which are exposed to the impact of interest and foreign currency exchange rate changes, and our interest income fluctuates as interest rates change. Due to the short-term nature of our investments in money market funds and U.S. Treasury Bills, our carrying value approximates the fair value of these investments at December 31, 2022, however, we are subject to investment risk.

We invest our cash, cash equivalents and short-term investments in accordance with our investment policy. The primary objectives of our investment policy are to preserve principal, maintain proper liquidity to meet operating needs, and maximize yields. We review our investment policy annually and amend it as deemed necessary. Currently, the investment policy prohibits investing in any structured investment vehicles and asset-backed commercial paper. Although our investments are subject to credit risk, our investment policy specifies credit quality standards for our investments and limits the amount of credit exposure from any single issue, issuer, or type of investment. We do not invest in derivative financial instruments. Accordingly, we do not believe that there is currently any material market risk exposure with respect to derivatives or other financial instruments that would require disclosure under this item.

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Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Agenus Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Agenus Inc. and subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations and comprehensive loss, convertible preferred stock and stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated 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 years in the three-year period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 16, 2023 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated 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 consolidated 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 consolidated 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 consolidated 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 consolidated 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 consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the consolidated 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.

Going concern analysis

As discussed in Note 1 to the consolidated financial statements, the Company has incurred significant losses since its inception. As of December 31, 2022, the Company had an accumulated deficit of \$1.71 billion. The Company finances its operations through income and revenues generated from corporate partnerships, advance royalty sales and issuance of equity. Management has concluded that, based on its current plans and projections, the Company will be able to satisfy its liquidity requirements for more than one year from when these financial statements were issued. The Company continuously evaluates the likelihood of success of its programs. As such, its decisions to continue to fund or eliminate funding of each of its programs are predicated on these determinations, on an ongoing basis. The Company is prepared to discontinue funding of any activities that do not impact core priorities if they do not prove to be feasible, among other actions.

We identified the assessment of liquidity and the Company's ability to continue as a going concern as a critical audit matter. A high degree of subjective auditor judgment was required to evaluate the Company's forecasted cash flows used in its liquidity analysis due to uncertainty in certain assumptions used to estimate the cash flows. Specifically, auditor judgment was required to evaluate management's plans to control spending.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's going concern assessment. These included controls related to the inputs and assumptions used to forecast cash flows in the liquidity analysis. We compared the Company's historical forecasted cash flows to actual results to assess the Company's ability to accurately forecast. We evaluated the Company's liquidity analysis by assessing the feasibility of management's spending plans. We also evaluated whether the information used in management's analysis was consistent with information presented to the Board of Directors and other public information disseminated by the Company.

/s/ KPMG LLP

We have served as the Company's auditor since 1997.

Boston, Massachusetts

March 16, 2023

AGENUS INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(Amounts in thousands, except share and per share amounts)

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
ASSETS		
Cash and cash equivalents	\$ 178,674	\$ 291,931
Short-term investments	14,684	14,992
Accounts Receivable	2,741	1,518
Prepaid expenses	13,829	20,362
Other current assets	3,194	3,171
Total current assets	213,122	331,974
Property, plant and equipment, net of accumulated amortization and depreciation of \$54,075 and \$50,539 at December 31, 2022 and 2021, respectively	133,017	60,029
Operating lease right-of-use assets	31,269	31,054
Goodwill	25,467	24,876
Acquired intangible assets, net of accumulated amortization of \$16,148 and \$13,955 at December 31, 2022 and 2021, respectively	6,228	8,488
Other long-term assets	4,453	9,537
Total assets	\$ 413,556	\$ 465,958
LIABILITIES, CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current portion, long-term debt	\$ 575	\$ 728
Current portion, liability related to sale of future royalties and milestones	83,510	62,040
Current portion, deferred revenue	12,269	12,425
Current portion, operating lease liabilities	1,943	2,627
Accounts payable	40,939	30,486
Accrued liabilities	38,259	42,091
Other current liabilities	11,457	6,546
Total current liabilities	188,952	156,943
Long-term debt, net of current portion	12,584	12,823
Liability related to sale of future royalties and milestones, net of current portion	187,753	191,708
Deferred revenue, net of current portion	1,143	11,200
Operating lease liabilities, net of current portion	63,326	42,109
Contingent purchase price consideration	874	1,689
Other long-term liabilities	13,826	1,577
Commitments and contingencies (Note 21)		
STOCKHOLDERS' EQUITY (DEFICIT)		
Preferred stock, par value \$0.01 per share; 5,000,000 shares authorized: Series A-1 convertible preferred stock; 31,620 shares designated, issued, and outstanding at December 31, 2022 and 2021; liquidation value of \$33,673 and \$33,460 at December 31, 2022, and 2021, respectively	0	0
Common stock, par value \$0.01 per share; 800,000,000 and 400,000,000 shares authorized at December 31, 2022 and 2021, respectively; 305,573,397 shares and 256,897,910 shares issued at December 31, 2022 and 2021, respectively	3,056	2,569
Additional paid-in capital	1,644,658	1,520,212
Accumulated other comprehensive income	915	1,492
Accumulated deficit	(1,709,907)	(1,489,833)
Total stockholders' equity (deficit) attributable to Agenus Inc.	(61,278)	34,440
Non-controlling interest	6,376	13,469
Total stockholders' equity (deficit)	(54,902)	47,909
Total liabilities, convertible preferred stock and stockholders' equity (deficit)	\$ 413,556	\$ 465,958

See accompanying notes to consolidated financial statements.

AGENUS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
For the Years Ended December 31, 2022, 2021, and 2020
(Amounts in thousands, except per share amounts)

	2022	2021	2020
Revenue:			
Research and development	\$ 16,975	\$ 244,422	\$ 35,915
Service revenue	10,514	6,704	4,619
Royalty sales milestone	25,250	—	—
Other revenue	—	184	91
Non-cash revenue related to the sale of future royalties and milestones	45,285	44,355	47,545
Total revenues	98,024	295,665	88,170
Operating expenses:			
Cost of service revenue	(10,568)	(3,470)	(2,349)
Research and development	(186,691)	(178,608)	(142,617)
General and administrative	(81,007)	(76,359)	(59,218)
Contingent purchase price consideration fair value adjustment	815	(11,481)	(1,221)
Operating income (loss)	(179,427)	25,747	(117,235)
Other income (expense):			
Gain on extinguishment of debt	—	6,197	—
Loss on modification of debt	(1,937)	—	(2,720)
Non-operating income (expense)	12,571	5,051	(1,858)
Interest expense, net	(61,863)	(65,719)	(61,078)
Net loss	(230,656)	(28,724)	(182,891)
Dividends on Series A-1 convertible preferred stock	(212)	(211)	(209)
Less: net loss attributable to non-controlling interest	(10,582)	(4,798)	(1,977)
Net loss attributable to Agenus Inc. common stockholders	\$ (220,286)	\$ (24,137)	\$ (181,123)
Per common share data:			
Basic and diluted net loss attributable to Agenus Inc. common stockholders	\$ (0.78)	\$ (0.11)	\$ (1.05)
Weighted average number of Agenus Inc. common shares outstanding:			
Basic and diluted	281,743	228,919	172,504
Other comprehensive income (loss):			
Foreign currency translation gain (loss)	\$ (577)	\$ (1,280)	\$ 4,096
Other comprehensive income (loss)	(577)	(1,280)	4,096
Comprehensive loss	\$ (220,863)	\$ (25,417)	\$ (177,027)

See accompanying notes to consolidated financial statements.

AGENUS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)
For the Years Ended December 31, 2022, 2021, and 2020
(Amounts in thousands)

	Series C-1 Convertible Preferred Stock		Series A-1 Convertible Preferred Stock		Common Stock		Treasury Stock		Accumulat ed Other Comprehe nsive Income (Loss)	Non- control ling Interes t	Accumul ated Deficit	Total	
	Numbe r of Shares	Amo unt	Numbe r of Shares	Pa r Val ue	Numb er of Shares	Par Valu e	Additi onal Paid-In Capital	Num ber of Shar es					Amo unt
Balance at December 31, 2019	12	\$ 26,917	32	\$ 0	137,819	\$ 1,378	\$ 1,059,583	—	\$ —	\$ (1,324)	\$ (5,981)	\$ (1,284,993)	\$ (231,337)
Net loss	—	—	—	—	—	—	—	—	—	—	(1,977)	(180,914)	(182,891)
Other comprehensive income	—	—	—	—	—	—	—	—	—	4,096	—	—	4,096
Share-based compensation	—	—	—	—	—	—	10,121	—	—	—	—	—	10,121
Vesting of nonvested shares	—	—	—	—	166	2	(2)	—	—	—	—	—	—
Shares sold at the market	—	—	—	—	50,947	509	155,912	—	—	—	—	—	156,421
Shares sold under stock purchase agreement	—	—	—	—	4,963	50	19,950	—	—	—	—	—	20,000
Issuance of subsidiary shares to noncontrolling interest	—	—	—	—	—	—	2,242	—	—	—	132	—	2,374
Issuance of shares for business acquisition	—	—	—	—	405	4	896	—	—	—	—	—	900
Amendment of 2015 warrants and issuance of 2020 warrants	—	—	—	—	—	—	3,145	—	—	—	—	—	3,145
Payment of CEO payroll in shares	—	—	—	—	86	1	295	—	—	—	—	—	296
Issuance of shares for services	—	—	—	—	208	2	906	—	—	—	—	—	908
Exercise of stock options and employee share purchases	—	—	—	—	1,499	15	4,454	—	—	—	—	—	4,469
Balance at December 31, 2020	12	\$ 26,917	32	\$ 0	196,093	\$ 1,961	\$ 1,257,502	—	\$ —	\$ 2,772	\$ (7,826)	\$ (1,465,907)	\$ (211,498)

See accompanying notes to consolidated financial statements.

AGENUS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)
(Continued)
For the Years Ended December 31, 2022, 2021, and 2020
(Amounts in thousands)

	Series C-1 Convertible Preferred Stock		Series A-1 Convertible Preferred Stock		Common Stock		Treasury Stock		Accumulat ed Other Comprehen sive Income (Loss)	Non- control ling Interes t	Accumul ated Deficit	Total	
	Num ber of Share s	Amou nt	Numb er of Share s	Par Valu e	Numb er of Share s	Par Valu e	Additi onal Paid-In Capital	Num ber of Shar es					Amo unt
Net loss	—	\$ —	—	\$ —	—	\$ —	\$ —	—	\$ —	\$ —	\$ (4,798)	\$ (23,926)	\$ (28,724)
Other comprehensive loss	—	—	—	—	—	—	—	—	—	(1,280)	—	—	(1,280)
Share-based compensation	—	—	—	—	—	—	17,514	—	—	—	1,620	—	19,134
Vesting of nonvested shares	—	—	—	—	246	2	(2)	—	—	—	—	—	—
Shares sold at the market	—	—	—	—	44,234	442	197,206	—	—	—	—	—	197,648
Conversion of series C-1 convertible preferred stock	(12)	(26,917)	—	—	12,459	125	26,792	—	—	—	—	—	26,917
Issuance of subsidiary shares to noncontrolling interest	—	—	—	—	—	—	6,757	—	—	—	3,243	—	10,000
Sale of subsidiary shares in an initial public offering	—	—	—	—	—	—	1,767	—	—	—	21,230	—	22,997
Issuance of warrants	—	—	—	—	—	—	70	—	—	—	—	—	70
Payment of CEO payroll in shares	—	—	—	—	46	1	170	—	—	—	—	—	171
Issuance of shares for services	—	—	—	—	47	1	215	—	—	—	—	—	216
Exercise of stock options and employee share purchases	—	—	—	—	2,744	27	9,105	—	—	—	—	—	9,132
Issuance of shares for employee bonuses	—	—	—	—	1,580	16	3,116	(550)	(1,654)	—	—	—	1,478
Retirement of treasury shares	—	—	—	—	(550)	(6)	-	550	1,654	—	—	—	1,648
Balance at December 31, 2021	—	\$ —	32	\$ 0	256,899	\$ 2,569	\$ 1,520,212	—	\$ —	\$ 1,492	\$ 13,469	\$ (1,489,833)	\$ 47,909

See accompanying notes to consolidated financial statements.

AGENUS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)
(Continued)
For the Years Ended December 31, 2022, 2021, and 2020
(Amounts in thousands)

	Series C-1 Convertible Preferred Stock		Series A-1 Convertible Preferred Stock		Common Stock		Treasury Stock		Accumulate d Other Comprehen sive Income (Loss)	Non- control Interes t	Accumul ated Deficit	Total	
	Num ber of Share s	A mo un t	Number of Shares	Pa r Val ue	Numb er of Share s	Par Valu e	Additi onal Paid-In Capital	Num ber of Shar es					Amo unt
Net loss	—	\$ —	—	\$ —	—	\$ —	—	—	\$ —	\$ (10,582)	\$ (220,074)	\$ (230,656)	
Other comprehensive loss	—	—	—	—	—	—	—	—	—	(577)	—	(577)	
Share-based compensation	—	—	—	—	—	—	15,200	—	—	—	3,195	18,395	
Vesting of nonvested shares	—	—	—	—	230	2	(2)	—	—	—	—	—	
Shares sold at the market	—	—	—	—	45,142	451	98,760	—	—	—	—	99,211	
Issuance of warrants	—	—	—	—	—	—	2,332	—	—	—	—	2,332	
Issuance of shares for services	—	—	—	—	45	1	137	—	—	—	—	138	
Issuance of director deferred shares	—	—	—	—	5	—	19	—	—	—	—	19	
Exercise of stock options and employee share purchases	—	—	—	—	430	4	894	—	—	—	—	898	
Issuance of shares for milestone achievement	—	—	—	—	180	2	498	—	—	—	—	500	
Issuance of subsidiary shares for employee bonus	—	—	—	—	—	—	—	—	—	—	294	294	
Issuance of shares for employee bonuses	—	—	—	—	4,090	41	6,608	(1,447)	(3,632)	—	—	3,017	
Retirement of treasury shares	—	—	—	—	(1,447)	(14)	—	1,447	3,632	—	—	3,618	
Balance at December 31, 2022	—	\$ —	32	\$ 0	305,574	\$ 3,056	\$ 1,644,658	—	\$ —	\$ 915	\$ 6,376	\$ (1,709,907)	\$ (54,902)

See accompanying notes to consolidated financial statements.

AGENUS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
For the Years Ended December 31, 2022, 2021, and 2020
(Amounts in thousands, except per share amounts)

	2022	2021	2020
Cash flows from operating activities:			
Net loss	\$ (230,656)	\$ (28,724)	\$ (182,891)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	6,946	6,788	7,179
Share-based compensation	18,337	19,577	10,417
Non-cash royalty and milestone revenue	(45,285)	(44,355)	(47,545)
Non-cash interest expense	62,955	64,619	60,029
Donation of assets	—	—	622
(Gain) loss on sale or disposal of assets	(16,196)	(3,301)	198
Loss on impairment of assets	6,111	—	—
Gain on partial forgiveness of liability	(2,791)	—	—
Loss on modification of debt	1,937	—	2,720
Gain on extinguishment of debt	—	(6,197)	—
Change in fair value of contingent obligations	(815)	11,481	1,221
Changes in operating assets and liabilities:			
Accounts receivable	122	(394)	16,187
Prepaid expenses	11,865	(5,129)	(187)
Accounts payable	6,494	10,824	2,767
Deferred revenue	(10,368)	(21,832)	(11,464)
Accrued liabilities and other current liabilities	2,034	(1,062)	3,826
Other operating assets and liabilities	13,937	7,850	(2,175)
Net cash provided by (used in) operating activities	<u>(175,373)</u>	<u>10,145</u>	<u>(139,096)</u>
Cash flows from investing activities:			
Proceeds from sale of property, plant and equipment	21,998	5,656	—
Purchases of property, plant and equipment	(53,062)	(33,814)	(3,466)
Purchases of available-for-sale securities	(24,629)	(14,992)	—
Proceeds from sale of available-for-sale securities	25,000	—	—
Cash paid for business acquisition, net	(2,917)	—	(975)
Net cash used in investing activities	<u>(33,610)</u>	<u>(43,150)</u>	<u>(4,441)</u>
Cash flows from financing activities:			
Net proceeds from sale of equity	99,211	197,648	176,421
Net proceeds from sale of subsidiary shares in an initial public offering	—	22,997	—
Proceeds from employee stock purchases and option exercises	898	9,132	4,469
Purchase of treasury shares to satisfy tax withholdings	(3,789)	(1,654)	—
Proceeds from issuance of long-term debt	—	—	6,197
Payment of contingent purchase price consideration	—	(1,542)	—
Repayments of debt	—	(462)	(1,462)
Payment of finance lease obligation	(490)	(855)	(1,770)
Net cash provided by financing activities	<u>95,830</u>	<u>225,264</u>	<u>183,855</u>
Effect of exchange rate changes on cash	(104)	(164)	379
Net (decrease) increase in cash, cash equivalents and restricted cash	(113,257)	192,095	40,697
Cash, cash equivalents and restricted cash, beginning of period	294,600	102,505	61,808
Cash, cash equivalents and restricted cash, end of period	<u>\$ 181,343</u>	<u>\$ 294,600</u>	<u>\$ 102,505</u>
Supplemental cash flow information:			
Cash paid for interest	\$ 1,143	\$ 1,152	\$ 1,176
Supplemental disclosures - non-cash activities:			
Purchases of plant and equipment in accounts payable and accrued liabilities	\$ 4,580	\$ 5,363	\$ 289
Conversion of series C-1 convertible preferred stock to common stock, \$0.01 par value	—	26,917	—
Issuance of common stock, \$0.01 par value, for payment of certain employee bonuses	6,635	3,126	—
Issuance of common stock, \$0.01 par value, in connection with payment for services	138	216	908
Issuance of common stock, \$0.01 par value, for milestone achievement	500	—	—
Issuance of common stock, \$0.01 par value, in connection with business acquisition	—	—	900
Contingent purchase price consideration in connection with business acquisition	—	—	144
Issuance of subsidiary shares for employee bonus	294	—	—
Issuance of subsidiary shares to noncontrolling interest	—	10,000	2,374
Insurance financing agreements	1,377	1,630	—
Lease right-of-use assets obtained in exchange for new operating lease liabilities	9,206	1,649	28,184
Lease right-of-use assets obtained in exchange for new finance lease liabilities	25,027	762	2,434

See accompanying notes to consolidated financial statements.

AGENUS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(1) Description of Business

Agenus Inc. (including its subsidiaries, collectively referred to as “Agenus,” the “Company,” “we,” “us,” and “our”) is a clinical-stage company with a pipeline of therapies designed to activate the body’s immune system to fight cancer and infections, including immune-modulatory antibodies, adoptive cell therapies (through our subsidiary MiNK Therapeutics, Inc. (“MiNK”)) and vaccine adjuvants (through our subsidiary SaponiQx, Inc. (“SaponiQx”)). Our business is designed to drive success in Immuno-oncology (“I-O”) through speed, innovation and effective combination therapies. We believe that combination therapies and a deep understanding of each patient’s cancer will drive substantial expansion of the patient population benefiting from current and potential new I-O therapies. In addition to a diverse pipeline, we have assembled fully integrated end-to-end capabilities including novel target discovery, antibody generation, cell line development and current good manufacturing practice (“cGMP”) clinical manufacturing. We believe that these fully integrated capabilities enable us to produce novel candidates on timelines that are shorter than the industry standard. Leveraging our science and capabilities, we have forged important partnerships to advance our innovation.

We are developing a comprehensive I-O portfolio driven by the following platforms and programs, which we intend to utilize individually and in combination:

- our multiple antibody discovery platforms, including our proprietary display technologies, designed to drive the discovery of future antibody candidates;
- our antibody candidate programs, including our lead asset, botensilimab, an Fc-enhanced CTLA-4, for which data was presented at the 2022 ESMO World Congress on Gastrointestinal Cancer demonstrating in combination with balstilimab (PD-1) significant activity in “cold tumors,” such as microsatellite stable colorectal cancer (“MSS CRC”), and for which we initiated worldwide studies in 2022 in MSS CRC, in combination with balstilimab, melanoma and pancreatic cancer;
- our saponin-based vaccine adjuvant platform under our subsidiary SaponiQx, principally including our QS-21 STIMULON adjuvant (“QS-21 STIMULON”); and
- a pipeline of novel allogeneic invariant natural killer T cell (“iNKT”) therapies to treat cancer and other immune-mediated diseases controlled by our subsidiary, MiNK.

Our business activities include product research, preclinical and clinical development, intellectual property prosecution, manufacturing, regulatory and clinical affairs, corporate finance and development activities, and support of our collaborations. Our product candidates require successful clinical trials and approvals from regulatory agencies, as well as acceptance in the marketplace. Part of our strategy is to develop and commercialize some of our product candidates by continuing our existing arrangements with academic and corporate collaborators and licensees and by entering into new collaborations.

Our cash, cash equivalents and short-term investments at December 31, 2022 were \$193.4 million, a decrease of \$113.6 million from December 31, 2021. Cash and cash equivalents of our subsidiary, MiNK, at September 30, 2022, were \$24.2 million. MiNK cash can only be accessed by Agenus through a declaration of a dividend by the MiNK Board of Directors or through settlement of intercompany balances.

We have incurred significant losses since our inception. As of December 31, 2022, we had an accumulated deficit of \$1.71 billion.

Historically we have successfully financed our operations through income and revenues generated from corporate partnerships, advance royalty sales and issuance of equity. Based on our current plans and projections, we believe our year end cash resources of \$193.4 million at December 31, 2022, will be sufficient to satisfy our liquidity requirements for more than one year from when these financial statements were issued.

Management continues to monitor the Company’s liquidity position and has the flexibility to adjust spending as needed in order to preserve and extend liquidity. We continuously evaluate the likelihood of success of our programs. As such, our decisions to continue to fund or eliminate funding of each of our programs are predicated on these determinations, on an ongoing basis. We are prepared to discontinue funding of any activities that do not impact our core priorities if they do not prove to be feasible, and to restrict capital expenditures and/or reduce the scale of our operations. We expect our potential sources of funding to include: (1) collaborations, out-licensing and/or partnering opportunities for our portfolio programs and product candidates with multiple parties, (2) milestone payments from our existing partnerships, (3) consummating additional third-party agreements, (4) selling assets, (5) securing project financing and/or (6) selling equity securities.

Research and development program costs include compensation and other direct costs plus an allocation of indirect costs, based on certain assumptions, and our review of the status of each program. Our product candidates are in various stages of development and significant additional expenditures will be required if we start new trials, encounter delays in our programs, apply for regulatory approvals, continue development of our technologies, expand our operations, and/or bring our product candidates to market. The eventual total cost of each clinical trial is dependent on a number of factors such as trial design, length of the trial, number of clinical sites, and number of patients. The process of obtaining and maintaining regulatory approvals for new therapeutic products is lengthy, expensive, and uncertain. Because many of our antibody programs are early stage, and because any further development is dependent on clinical trial results, among other factors, we are unable to reliably estimate the cost of completing our research and development programs or the timing for bringing such programs to various markets or substantial partnering or out-licensing arrangements, and, therefore, when, if ever, material cash inflows are likely to commence. We will continue to adjust our spending as needed in order to preserve liquidity.

(2) Summary of Significant Accounting Policies

(a) Basis of Presentation and Principles of Consolidation

The consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles and include the accounts of Agenus and our subsidiaries. All significant intercompany transactions and accounts have been eliminated in consolidation. Non-controlling interest in the consolidated financial statements represents the portion of two of our subsidiaries not 100% owned by Agenus. Refer to Note 12 for additional detail.

(b) Segment Information

We are managed and currently operate as five segments. However, we have concluded that our operating segments meet the criteria required by Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) 280, *Segment Reporting* to be aggregated into one reportable segment. Our operating segments have similar economic characteristics and are similar with respect to the five qualitative characteristics specified in ASC 280. Accordingly, we do not have separately reportable segments as defined by ASC 280.

(c) Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. We base those estimates on historical experience and on various assumptions that are believed to be reasonable under the circumstances. Actual results could differ from those estimates.

(d) Cash and Cash Equivalents

We consider all highly liquid investments purchased with maturities at acquisition of three months or less to be cash equivalents. Cash equivalents consist primarily of money market funds and U.S. Treasury Bills.

(e) Concentrations of Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk are primarily cash equivalents, investments, and accounts receivable. We invest our cash, cash equivalents and short-term investments in accordance with our investment policy, which specifies high credit quality standards and limits the amount of credit exposure from any single issue, issuer, or type of investment. We carry balances in excess of federally insured levels; however, we have not experienced any losses to date from this practice.

(f) Accounts Receivable

Accounts receivable are amounts due from our collaboration partners and customers as a result of research and development and other services provided, as well as the shipment of clinical product. We considered the need for an allowance for doubtful accounts and have concluded that no allowance was needed as of December 31, 2022 and 2021, as the estimated risk of loss on our accounts receivable was determined to be minimal.

(g) Property, Plant and Equipment

Property, plant and equipment, including software developed for internal use, are carried at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the assets. Amortization of leasehold improvements is computed over the shorter of the lease term or estimated useful life of the asset. Additions and improvements are capitalized, while repairs and maintenance are charged to expense as incurred. Amortization and depreciation of plant and equipment was \$4.7 million, \$4.6 million, and \$5.1 million, for the years ended December 31, 2022, 2021, and 2020, respectively.

Construction in progress represents direct and indirect construction costs for leasehold improvements and costs of acquisition and installation of equipment. Amounts classified as construction in progress are transferred to their respective property and equipment account when the activities necessary to prepare the assets for their intended use are completed and the assets are placed in service. Depreciation is not recorded for assets classified as construction in progress.

(h) Fair Value of Financial Instruments

The estimated fair values of all our financial instruments approximate their carrying amounts in the consolidated balance sheets. The fair value of our outstanding debt is based on a present value methodology. The outstanding principal amount of our debt, including the current portion, was \$13.6 million and \$13.8 million at December 31, 2022 and 2021, respectively.

(i) Revenue Recognition

We account for revenue in accordance with ASC 606, *Revenue from Contracts with Customers* (“ASC 606”).

For the years ended December 31, 2022, 2021 and 2020, 72%, 74% and 16%, respectively, of our revenue was earned from one collaboration partner.

In accordance with ASC 606, revenue is recognized when a customer obtains control of promised goods or services. The amount of revenue recognized reflects the consideration to which we expect to be entitled to receive in exchange for these goods and services. To achieve this core principle, we apply the following five steps:

1) Identify the contract with the customer

A contract with a customer exists when (i) the Company enters into an enforceable contract with a customer that defines each party’s rights regarding the goods or services to be transferred and identifies the related payment terms, (ii) the contract has commercial substance, and (iii) the Company determines that collection of substantially all consideration for goods and services that are transferred is probable based on the customer’s intent and ability to pay the promised consideration. The Company applies judgment in determining the customer’s intent and ability to pay, which is based on a variety of factors including the customer’s historical payment experience, or in the case of a new customer, published credit and financial information pertaining to the customer.

2) Identify the performance obligations in the contract

Performance obligations promised in a contract are identified based on the goods and services that will be transferred to the customer that are both capable of being distinct, whereby the customer can benefit from the good or service either on its own or together with other available resources, and are distinct in the context of the contract, whereby the transfer of the good or service is separately identifiable from other promises in the contract. To the extent a contract includes multiple promised goods and services, the Company must apply judgment to determine whether promised goods and services are capable of being distinct and are distinct in the context of the contract. If these criteria are not met, the promised goods and services are accounted for as a combined performance obligation.

3) Determine the transaction price

The transaction price is determined based on the consideration to which the Company will be entitled in exchange for transferring goods and services to the customer. To the extent the transaction price includes variable consideration, the Company estimates the amount of variable consideration that should be included in the transaction price utilizing either the expected value method or the most likely amount method depending on the nature of the variable consideration. Variable consideration is included in the transaction price if, in the Company’s judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. Any estimates, including the effect of the constraint on variable consideration, are evaluated at each reporting period for any changes. Determining the transaction price requires significant judgment, which is discussed in further detail for each of the Company’s contracts with customers in Note 15.

4) Allocate the transaction price to performance obligations in the contract

If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation on a relative stand-alone selling price basis unless the transaction price is variable and meets the criteria to be allocated entirely to a performance obligation or to a distinct service that forms part of a single performance obligation. The consideration to be received is allocated among the separate performance obligations based on relative stand-alone selling prices. Determining the amount of the transaction price to allocate to each separate performance obligation requires significant judgment, which is discussed in further detail for each of the Company's contracts with customers in Note 15.

5) Recognize revenue when or as the Company satisfies a performance obligation

The Company satisfies performance obligations either over time or at a point in time. Revenue is recognized over time if either 1) the customer simultaneously receives and consumes the benefits provided by the entity's performance, 2) the entity's performance creates or enhances an asset that the customer controls as the asset is created or enhanced, or 3) the entity's performance does not create an asset with an alternative use to the entity and the entity has an enforceable right to payment for performance completed to date. If the entity does not satisfy a performance obligation over time, the related performance obligation is satisfied at a point in time by transferring the control of a promised good or service to a customer. Examples of control are using the asset to produce goods or services, enhance the value of other assets, settle liabilities, and holding or selling the asset. ASC 606 requires the Company to select a single revenue recognition method for the performance obligation that faithfully depicts the Company's performance in transferring control of the goods and services. The guidance allows entities to choose between two methods to measure progress toward complete satisfaction of a performance obligation:

1. Output methods - recognize revenue on the basis of direct measurements of the value to the customer of the goods or services transferred to date relative to the remaining goods or services promised under the contract (e.g. surveys of performance completed to date, appraisals of results achieved, milestones reached, time elapsed, and units of produced or units delivered); and
2. Input methods - recognize revenue on the basis of the entity's efforts or inputs to the satisfaction of a performance obligation (e.g., resources consumed, labor hours expended, costs incurred, or time elapsed) relative to the total expected inputs to the satisfaction of that performance obligation.

Licenses of intellectual property: If the license to the Company's intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenue from non-refundable, up-front fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license. For licenses that are bundled with other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, up-front fees. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

Milestone payments: At the inception of each arrangement that includes development, regulatory or commercial milestone payments, the Company evaluates whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price. ASC 606 suggests two alternatives to use when estimating the amount of variable consideration: the expected value method and the most likely amount method. Under the expected value method, an entity considers the sum of probability-weighted amounts in a range of possible consideration amounts. Under the most likely amount method, an entity considers the single most likely amount in a range of possible consideration amounts. Whichever method is used, it should be consistently applied throughout the life of the contract; however, it is not necessary for the Company to use the same approach for all contracts. The Company uses the most likely amount method for development and regulatory milestone payments. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. The transaction price is then allocated to each performance obligation on a relative stand-alone selling price basis. The Company recognizes revenue as or when the performance obligations under the contract are satisfied. At the end of each subsequent reporting period, the Company re-evaluates the probability or achievement of each such milestone and any related constraint, and if necessary, adjusts its estimates of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect revenues and earnings in the period of adjustment.

Royalties: For arrangements that include sales-based royalties, including milestone payments based on the level of sales, and the license is deemed to be the predominant item to which the royalties relate, the Company recognizes revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied).

Up-front Fees: Depending on the nature of the agreement, up-front payments and fees may be recorded as deferred revenue upon receipt or when due and may require deferral of revenue recognition to a future period until the Company performs its obligations under these arrangements. Amounts payable to the Company are recorded as accounts receivable when the Company's right to consideration is unconditional. The Company does not assess whether a contract has a significant financing component if the expectation at contract inception is such that the period between payment by the customer and the transfer of the promised goods or services to the customer will be one year or less.

(j) Foreign Currency Transactions

Gains and losses from our foreign currency-based accounts and transactions, such as those resulting from the translation and settlement of receivables and payables denominated in foreign currencies, are included in the consolidated statements of operations within other income (expense). We recorded a foreign currency loss of \$0.4 million for the year ended December 31, 2022, a foreign currency gain of \$1.0 million for the year ended December 31, 2021, and a foreign currency loss of \$3.1 million for the year ended December 31, 2020.

(k) Research and Development

Research and development expenses include the costs associated with our internal research and development activities, including salaries and benefits, share-based compensation, occupancy costs, clinical manufacturing costs, related administrative costs, and research and development conducted for us by outside advisors, such as sponsored university-based research partners and clinical study partners. We account for our internally managed clinical study costs by estimating the total cost to treat a patient in each clinical trial and recognizing this cost based on estimates of when the patient receives treatment, beginning when the patient enrolls in the trial. Research and development expenses also include the cost of clinical trial materials shipped to our research partners. Research and development costs are expensed as incurred.

(l) Share-Based Compensation

We account for share-based compensation in accordance with the provisions of ASC 718, *Compensation—Stock Compensation*. Share-based compensation expense is recognized based on the estimated grant date fair value. Compensation cost for awards with time-base vesting is recognized on a straight-line basis over the requisite service period of the award. Forfeitures are recognized as they occur. See Note 13 for a further discussion on share-based compensation.

(m) Income Taxes

Income taxes are accounted for under the asset and liability method with deferred tax assets and liabilities recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis and net operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which such items are expected to be reversed or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the consolidated statement of operations in the period that includes the enactment date. Deferred tax assets which are not more likely than not to be realized are subject to valuation allowance.

(n) Net Loss Per Share

Basic income and loss per common share are calculated by dividing the net loss attributable to common stockholders by the weighted average number of common shares outstanding (including common shares issuable under our Directors' Deferred Compensation Plan). Diluted income per common share is calculated by dividing net income attributable to common stockholders by the weighted average number of common shares outstanding (including common shares issuable under our Directors' Deferred Compensation Plan) plus the dilutive effect of outstanding instruments such as warrants, stock options, non-vested shares, convertible preferred stock, and convertible notes. Because we reported a net loss attributable to common stockholders for all periods presented, diluted loss per common share is the same as basic loss per common share, as the effect of utilizing the fully diluted share count would have reduced the net loss per common share. Therefore, the following potentially dilutive securities have been excluded from the computation of diluted weighted average shares outstanding as of December 31, 2022, 2021, and 2020, as they would be anti-dilutive:

	Year Ended		
	2022	2021	2020
Warrants	1,980	1,980	1,950
Stock options	35,985	32,764	28,916
Nonvested shares	356	1,018	887
Series A-1 convertible preferred stock	333	333	333
Series C-1 convertible preferred stock	—	—	12,459

(o) Goodwill

Goodwill represents the excess of cost over the fair value of net assets of businesses acquired. Goodwill is not amortized, but instead tested for impairment at least annually. Annually we assess whether there is an indication that goodwill is impaired, or more frequently if events and circumstances indicate that the asset might be impaired during the year. We perform our annual impairment test as of October 31 of each year. The first step of our impairment analysis compares the fair value of our reporting units to their net book value to determine if there is an indicator of impairment. We operate as five reporting units. ASC 350, *Intangibles, Goodwill and Other* states that if the carrying value of a reporting unit is negative, the second step of the impairment test shall be performed to measure the amount of impairment loss, if any, if qualitative factors indicate that it is more likely than not that a goodwill impairment exists. No goodwill impairment has been recognized for the periods presented.

(p) Long-lived Assets

If required based on certain events and circumstances, recoverability of assets to be held and used, other than goodwill and intangible assets not being amortized, is measured by a comparison of the carrying amount of an asset to the undiscounted future net cash flows expected to be generated by the asset or asset group. If the carrying amount of an asset exceeds its estimated future undiscounted cash flows, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds the fair value of the asset. Authoritative guidance requires companies to separately report discontinued operations and extends that reporting to a component of an entity that either has been disposed of (by sale, abandonment, or in a distribution to owners) or is classified as held for sale. Assets to be disposed of are reported at the lower of the carrying amount or fair value less costs to sell.

(q) Leases

We account for leases in accordance with ASC 842, *Leases* ("ASC 842").

At the inception of an agreement, we determine whether the contract contains a lease. If a lease is identified in such arrangement, we recognize a right-of-use asset and liability on our consolidated balance sheet and determine whether the lease should be classified as a finance or operating lease. We have elected not to recognize assets or liabilities for leases with lease terms of 12 months or less.

A lease qualifies as a finance lease if any of the following criteria are met at the inception of the lease: (i) there is a transfer of ownership of the leased asset by the end of the lease term, (ii) we hold an option to purchase the leased asset that we are reasonably certain to exercise, (iii) the lease term is for a major part of the remaining economic life of the leased asset, (iv) the present value of the sum of lease payments equals or exceeds substantially all of the fair value of the leased asset, or (v) the nature of the leased asset is specialized to the point that it is expected to provide the lessor no alternative use at the end of the lease term. All other leases are recorded as operating leases.

Our leases commence when the lessor makes the asset available for our use. Finance and operating lease right-of-use assets and liabilities are recognized at the lease commencement date. Lease liabilities are recognized as the present value of the lease payments

over the lease term, net of any future lease incentives to be received, using the discount rate implicit in the lease. If the implicit rate is not readily determinable, as is the case with all our current leases, we utilize our incremental borrowing rate at the lease commencement date. Right-of-use assets are recognized based on the amount of the lease liability, adjusted for any advance lease payments paid, initial direct costs incurred, or lease incentives received prior to commencement. Right-of-use assets are subject to evaluation for impairment or disposal on a basis consistent with other long-lived assets.

Operating lease payments are expensed using the straight-line method as an operating expense over the lease term, unless the right-of-use asset reflects impairment. We will then recognize the amortization of the right-of-use asset on a straight-line basis over the remaining lease term with rent expense still included in operating expense in our consolidated statement of operations.

Finance lease assets are amortized to depreciation expense using the straight-line method over the shorter of the useful life of the related asset or the lease term, unless the lease includes a provision that either (i) results in the transfer of ownership of the underlying asset at the end of the lease term or (ii) includes a purchase option whose exercise is reasonably certain. In either of these instances, the right-of-use asset is amortized over the useful life of the underlying asset. Finance lease payments are bifurcated into (i) a portion that is recorded as imputed interest expense and (ii) a portion that reduces the finance lease liability.

We do not separate lease and non-lease components for any of our current asset classes when determining which lease payments to include in the calculation of its lease assets and liabilities. Variable lease payments are expensed in the period incurred. If a lease includes an option to extend or terminate the lease, we reflect the option in the lease term if it is reasonably certain the option will be exercised. Our right of use assets and lease liabilities generally exclude periods covered by renewal options and include periods covered by early termination options (based on our conclusion that it is not reasonably certain that we will exercise such options).

We accounted for the sublease of space in our main Lexington, Massachusetts facility from the perspective of a lessor. Our sublease was classified as an operating lease. We recorded sublease income as a reduction of operating expense.

Operating leases are recorded in “Operating lease right-of-use assets”, “Current portion, operating lease liabilities” and “Operating lease liabilities, net of current portion”, while finance leases are recorded in “Property, plant and equipment, net”, “Other current liabilities” and “Other long-term liabilities” on our consolidated balance sheets.

(r) Recent Accounting Pronouncements

Recently Issued, Not Yet Adopted

In January 2017, the FASB issued ASU 2017-04, Intangibles – Goodwill and Other (Topic 350) that will eliminate the requirement to calculate the implied fair value of goodwill to measure a goodwill impairment charge. Instead, an impairment charge will be based on the excess of a reporting unit’s carrying amount over its fair value. The guidance is effective for the Company in the first quarter of fiscal 2023. Early adoption is permitted. We do not anticipate the adoption of this guidance to have a material impact on our consolidated financial statements, absent any goodwill impairment.

No other new accounting pronouncement issued or effective during the year ended December 31, 2022 had or is expected to have a material impact on our consolidated financial statements or disclosures.

(3) Business Acquisitions

4-Antibody

On January 10, 2014, we entered into a Share Exchange Agreement (the “Share Exchange Agreement”) providing for our acquisition of all of the outstanding capital stock of Agenus Switzerland Inc. (formerly known as 4-Antibody AG) (“4-AB”), from the shareholders of 4-AB (the “4-AB Shareholders”). Contingent milestone payments of up to \$40.0 million (the “contingent purchase price consideration”), payable in cash or shares of our common stock at our option, are due to the 4-AB Shareholders as follows: (i) \$20.0 million upon our market capitalization exceeding \$300.0 million for 10 consecutive trading days prior to the earliest of (a) the fifth anniversary of the Closing Date (b) the sale of the 4-AB or (c) the sale of Agenus; (ii) \$10.0 million upon our market capitalization exceeding \$750.0 million for 30 consecutive trading days prior to the earliest of (a) the tenth anniversary of the Closing Date (b) the sale of 4-AB, or (c) the sale of Agenus, and (iii) \$10.0 million upon our market capitalization exceeding \$1.0 billion for 30 consecutive trading days prior to the earliest of (a) the tenth anniversary of the Closing Date, (b) the sale of 4-AB, or (c) the sale of Agenus. During January 2015, the first milestone noted above was achieved and, during 2021, the remaining two milestones were achieved.

PhosImmune Inc.

On December 23, 2015 (the “PhosImmune Closing Date”), we entered into a Purchase Agreement with PhosImmune Inc., a privately-held Virginia corporation (“PhosImmune”), the securityholders of PhosImmune (the “PhosImmune Securityholders”) and Fanelli Haag PLLC, as representative of the PhosImmune Securityholders providing for the acquisition of all outstanding securities of PhosImmune. Contingent milestone payments up to \$35.0 million payable in cash and/or stock at our option are due as follows: (i) \$5.0 million upon the closing trading price of our common stock equals or exceeds \$8.00 for 60 consecutive trading days prior to the earlier of (a) the fifth anniversary of the PhosImmune Closing Date (this milestone expired unachieved on December 23, 2020) or (b) the sale of Agenus; (ii) \$15.0 million if the closing trading price of our common stock equals or exceeds \$13.00 for 60 consecutive trading days prior to the earlier of (a) the tenth anniversary of the PhosImmune Closing Date or (b) the sale of Agenus; and (iii) \$15.0 million if the closing trading price of our common stock equals or exceeds \$19.00 for 60 consecutive trading days prior to the earlier of (a) the tenth anniversary of the PhosImmune Closing Date or (b) the sale of Agenus.

(4) Goodwill and Acquired Intangible Assets

The following table sets forth the changes in the carrying amount of goodwill for year ended December 31, 2022 (in thousands):

Balance, December 31, 2021	\$	24,876
Addition of goodwill related to business acquisition		831
Effect of foreign currency		(240)
Balance, December 31, 2022	\$	<u>25,467</u>

Acquired intangible assets consisted of the following at December 31, 2022 and 2021 (in thousands):

	As of December 31, 2022			
	Amortization period (years)	Gross carrying amount	Accumulated amortization	Net carrying amount
Intellectual Property	7-15 years	\$ 16,790	\$ (13,782)	\$ 3,008
Trademarks	4-4.5 years	1,272	(1,139)	133
Other	2-7 years	2,278	(1,227)	1,051
In-process research and development	Indefinite	2,036	—	2,036
Total		<u>\$ 22,376</u>	<u>\$ (16,148)</u>	<u>\$ 6,228</u>

	As of December 31, 2021			
	Amortization period (years)	Gross carrying amount	Accumulated amortization	Net carrying amount
Intellectual Property	7-15 years	\$ 16,850	\$ (11,927)	\$ 4,923
Trademarks	4.5 years	1,277	(1,047)	230
Other	2-7 years	2,255	(981)	1,274
In-process research and development	Indefinite	2,061	—	2,061
Total		<u>\$ 22,443</u>	<u>\$ (13,955)</u>	<u>\$ 8,488</u>

The weighted average amortization period of our finite-lived intangible assets is approximately 9 years. Amortization expense for the years ended December 31, 2022, 2021, and 2020 was \$2.2 million, \$2.1 million and \$2.4 million, respectively. Amortization expense related to acquired intangibles is estimated at \$1.7 million for 2023, \$0.6 million for each of 2024, 2025 and 2026 and \$0.4 million for 2027.

IPR&D acquired in a business combination is capitalized at fair value until the underlying project is completed and is subject to impairment testing. Once the project is completed, the carrying value of IPR&D is amortized over the estimated useful life of the asset. Post-acquisition research and development expenses related to the acquired IPR&D are expensed as incurred.

(5) Investments

Cash Equivalents and Short-term Investments

Cash equivalents and short-term investments consisted of the following as of December 31, 2022 and 2021 (in thousands):

	December 31, 2022		December 31, 2021	
	Cost	Estimated Fair Value	Cost	Estimated Fair Value
Institutional Money Market Funds	\$ 149,856	\$ 149,856	\$ 219,903	\$ 219,903
U.S. Treasury Bills	29,522	29,522	34,989	34,989
Total	<u>\$ 179,378</u>	<u>\$ 179,378</u>	<u>\$ 254,892</u>	<u>\$ 254,892</u>

As a result of the short-term nature of our investments, there were minimal unrealized holding gains or losses for the years ended December 31, 2022, 2021 and 2020.

Of the investments listed above, \$164.7 million and \$239.9 million were classified as cash equivalents and \$14.7 million and \$15.0 million as short-term investments on our consolidated balance sheets as of December 31, 2022 and 2021.

(6) Restricted Cash

As of both December 31, 2022 and 2021, we maintained non-current restricted cash of \$2.7 million and as of December 31, 2020 we maintained restricted cash of \$2.6 million. These amounts are included within "Other long-term assets" in our consolidated balance sheets and are comprised of deposits under letters of credit required under two of our facility leases.

The following table provides a reconciliation of cash, cash equivalents and restricted cash that agrees to the total of the aforementioned amounts shown in our consolidated statements of cash flows as of December 31, 2022, 2021 and 2020, respectively (in thousands):

	2022	2021	2020
Cash and cash equivalents	\$ 178,674	\$ 291,931	\$ 99,871
Restricted cash	2,669	2,669	2,634
Cash, cash equivalents and restricted cash	<u>\$ 181,343</u>	<u>\$ 294,600</u>	<u>\$ 102,505</u>

(7) Property, Plant and Equipment

Property, plant and equipment, net as of December 31, 2022 and 2021 consist of the following (in thousands):

	2022	2021	Estimated Depreciable Lives
Land	\$ 12,286	\$ 17,969	Indefinite
Building and building improvements	5,654	5,630	35 years
Furniture, Fixtures, and other	5,872	4,874	3 to 10 years
Laboratory, manufacturing and transportation equipment	58,914	27,095	4 to 15 years
Leasehold improvements	28,758	28,659	2 to 12 years
Software and computer equipment	9,144	9,504	3 years
Construction in progress	66,464	16,837	
	187,092	110,568	
Less accumulated depreciation and amortization	(54,075)	(50,539)	
Total	<u>\$ 133,017</u>	<u>\$ 60,029</u>	

During the years ended December 31, 2022 and 2021, we sold land with a recorded value of \$5.7 and \$2.3 million, respectively, and recorded gains on the sales of \$16.3 million and \$3.4 million, respectively, in "other income" in our consolidated statements of operations and comprehensive loss.

(8) Income Taxes

We are subject to taxation in the U.S. and in various state, local, and foreign jurisdictions. We remain subject to examination by U.S. Federal, state, local, and foreign tax authorities for tax years 2019 through 2022. With a few exceptions, we are no longer subject to U.S. Federal, state, local, and foreign examinations by tax authorities for the tax year 2018 and prior. However, net operating losses

from the tax year 2018 and prior would be subject to examination if and when used in a future tax return to offset taxable income. Our policy is to recognize income tax related penalties and interest, if any, in our provision for income taxes and, to the extent applicable, in the corresponding income tax assets and liabilities, including any amounts for uncertain tax positions.

As of December 31, 2022, we had available net operating loss carryforwards of \$690.1 million and \$263.6 million for Federal and state income tax purposes, respectively, which are available to offset future Federal and state taxable income, if any, \$140.8 million of these Federal net operating loss carryforwards do not expire, while the remaining net operating loss carryforwards expire between 2023 and 2042. Our ability to use these net operating losses may be limited by change of control provisions under Internal Revenue Code Section 382 and may expire unused. In addition, we have \$8.4 million and \$1.9 million of Federal and state research and development credits, respectively, available to offset future taxable income. These Federal and state research and development credits expire between 2023 and 2034 and 2023 and 2030, respectively. Additionally, we have \$136,000 of state investment tax credits, available to offset future taxable income that expire between 2023 and 2026. We also have foreign net operating loss carryforwards, which do not expire, available to offset future foreign taxable income of \$14.3 million in the United Kingdom, \$9.0 million in Belgium, \$715,000 in Ireland, and \$289,000 in Hong Kong, \$3.3 million in Germany and \$1.6 million in Russia. The potential impacts of these provisions are among the items considered and reflected in management's assessment of our valuation allowance requirements.

Beginning January 1, 2022, the Tax Cuts and Jobs Act (the "Tax Act") eliminated the option to deduct research and development expenditures in the current year and requires taxpayers to capitalize such expenses pursuant to Internal Revenue Code ("IRC") Section 174. The capitalized expenses are amortized over a 5-year period for domestic expenses and a 15-year period for foreign expenses. We have included the impact of this provision, which results in additional deferred tax assets of approximately \$41.5 million as of December 31, 2022.

The tax effect of temporary differences and net operating loss and tax credit carryforwards that give rise to significant portions of the deferred tax assets and deferred tax liabilities as of December 31, 2022 and 2021 are presented below (in thousands).

	2022	2021
Deferred tax assets:		
U.S. Federal and State net operating loss carryforwards	\$ 175,058	\$ 171,848
Foreign net operating loss carryforwards	7,203	6,608
Research and development tax credits	9,979	10,577
Share-based compensation	6,163	5,383
Intangible Assets	31,070	33,511
Interest expense carryforward	16,140	11,319
Deferred Revenue	51,959	51,256
Lease Liability	19,429	9,945
Capitalized research expenditures	41,513	—
Other	6,301	5,285
Total deferred tax assets	364,815	305,732
Less: valuation allowance	(347,869)	(297,831)
Net deferred tax assets	16,946	7,901
Foreign intangible assets	(854)	(940)
Right of use asset	(7,490)	(6,946)
Depreciable assets	(8,479)	—
Other	(1,034)	(1,017)
Deferred tax liabilities	(17,857)	(8,903)
Net deferred tax liability	\$ (911)	\$ (1,002)

In assessing the realizability of deferred tax assets, we consider whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which the net operating loss and tax credit carryforwards can be utilized or the temporary differences become deductible. We consider projected future taxable income and tax planning strategies in making this assessment. In order to fully realize the deferred tax asset, we will need to generate future taxable income sufficient to utilize net operating losses prior to their expiration. Based upon our history of not generating taxable income due to our business activities focused on product development, we believe that it is more likely than not that deferred tax assets will not be realized through future earnings. Accordingly, a valuation allowance has been established for deferred tax assets which will not be offset by the reversal of deferred tax liabilities. The valuation allowance on the deferred tax assets increased by \$50.0 million during the year ended December 31, 2022 and decreased by \$5.9 million during the year ended December 31, 2021.

Income tax expense was nil for the years ended December 31, 2022, 2021 and 2020. Income taxes recorded differed from the amounts computed by applying the U.S. Federal income tax rate of 21% to loss before income taxes as a result of the following (in thousands).

	2022	2021	2020
Computed “expected” Federal tax benefit	\$ (48,438)	\$ (5,976)	\$ (38,706)
(Increase) reduction in income taxes benefit resulting from:			
Change in valuation allowance	50,039	(5,916)	41,519
(Decrease) increase due to uncertain tax positions	—	1,674	(764)
Foreign income inclusion	—	—	3,570
Loan forgiveness	1,206	(1,301)	—
State and local income benefit, net of Federal income tax benefit	(12,533)	9,242	(4,675)
Equity based compensation	3,000	2,290	1,883
Foreign rate differential	(267)	(277)	629
Change in fair value contingent consideration	(171)	2,343	287
Expiration of tax attributes	10,428	571	—
Other, net	(3,264)	(2,650)	(3,743)
Income tax benefit	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>

A reconciliation of the beginning and ending amount of gross unrecognized tax benefits is as follows (in thousands):

	2022	2021	2020
Balance, January 1	\$ 3,148	\$ 3,614	\$ 4,292
Increase (decrease) related to current year positions	3	(484)	88
Increase (decrease) related to previously recognized positions	140	18	(766)
Balance, December 31	<u>\$ 3,291</u>	<u>\$ 3,148</u>	<u>\$ 3,614</u>

These unrecognized tax benefits would all impact the effective tax rate if recognized. There are no positions which we anticipate could change within the next twelve months.

(9) Accrued Liabilities

Accrued liabilities consist of the following as of December 31, 2022 and 2021 (in thousands):

	December 31, 2022	December 31, 2021
Payroll	\$ 15,872	\$ 14,206
Professional fees	6,946	6,433
Contract manufacturing costs	1,848	5,824
Research services	7,074	8,550
Other	6,519	7,078
Total	<u>\$ 38,259</u>	<u>\$ 42,091</u>

(10) Equity

Effective August 5, 2022, our certificate of incorporation was amended to increase the number of authorized shares of common stock from 400,000,000 to 800,000,000.

Under the terms and conditions of the Certificate of Designation creating the Series A-1 Preferred Stock, this stock is convertible by the holder at any time into our common stock, is non-voting, has an initial conversion price of \$94.86 per common share, subject to adjustment, and is redeemable by us at its face amount (\$31.6 million), plus any accrued and unpaid dividends. The Certificate of Designation does not contemplate a sinking fund. The Series A-1 Preferred Stock ranks senior to our common stock. In a liquidation, dissolution, or winding up of the Company, the Series A-1 Preferred Stock’s liquidation preference must be fully satisfied before any distribution could be made to the holders of the common stock. Other than in such a liquidation, no terms of the Series A-1 Preferred Stock affect our ability to declare or pay dividends on our common stock as long as the Series A-1 Preferred Stock’s dividends are accruing. The liquidation value of this Series A-1 Preferred stock is equal to \$1,000 per share outstanding plus any accrued unpaid dividends. Dividends in arrears with respect to the Series A-1 Preferred Stock were approximately \$2.1 million or \$64.92 per share, and \$1.8 million or \$58.21 per share, at December 31, 2022 and 2021, respectively.

On July 22, 2020, we filed an Automatic Shelf Registration Statement on Form S-3ASR (file no. 333-240006) (the “Registration Statement”). The Registration Statement included both a base prospectus that covered the potential offering, issuance and sale from

time to time of common stock, preferred stock, warrants, debt securities and units of Agenus and a prospectus covering the offering, issuance and sale of up to 100 million shares of our common stock from time to time in “at-the-market offerings” pursuant to an At Market Issuance Sales Agreement (the “Sales Agreement”) entered into with B. Riley on July 22, 2020. On March 1, 2022, we filed a prospectus supplement in connection with the potential offer and sale of up to an additional 100 million shares of common stock pursuant to the Sales Agreement. Pursuant to the Sales Agreement, sales will be made only upon instructions by us to B. Riley.

During the year ended December 31, 2022, we received net proceeds of approximately \$99.2 million from the sale of approximately 45.1 million shares of our common stock at an average price per share of approximately \$2.27, in at-the-market offerings under the Sales Agreement.

In June 2020, in connection with the Betta License Agreement, we entered into a stock purchase agreement with Betta and Betta HK, pursuant to which we agreed to sell to Betta HK approximately 5.0 million shares of our common stock for an aggregate purchase price of approximately \$20.0 million, or \$4.03 per share. The closing under the stock purchase agreement occurred in July 2020.

(11) Series C-1 Convertible Preferred Stock

In October 2018, we entered into a Stock Purchase Agreement with certain institutional investors (the “Purchasers”), pursuant to which we issued and sold an aggregate of 18,459 shares of Series C-1 Convertible Preferred Stock (the “C-1 Preferred Shares”), at a purchase price of \$2,167 per share. Each C-1 Preferred Share is convertible into 1,000 shares of our common stock at an initial conversion price of \$2.167 per share of common stock, which represents a 10% premium over the prior day’s closing price on Nasdaq. The aggregate purchase price paid by the Purchasers C-1 Preferred Shares was approximately \$40,000,000. We received net proceeds of \$39.9 million after offering expenses.

Conversion

The C-1 Preferred Shares were convertible at the option of the stockholder into the number of shares of Common Stock determined by dividing the stated value of the C-1 Preferred Shares being converted by the conversion price of \$2.167, subject to adjustment for stock splits, reverse stock splits and similar recapitalization events.

During the year ended December 31, 2021, holders of shares of Series C-1 Preferred Stock converted such shares into 12.5 million shares of our common stock. As of December 31, 2021 and 2022, no shares of Series C-1 Convertible Preferred Stock remained outstanding.

(12) Non-controlling Interest

Non-controlling interest recorded in our consolidated financial statements for the years ended December 31, 2022, 2021 and 2020, relates to the following approximate interests in certain consolidated subsidiaries, which we do not own.

	2022	2021	2020
MiNK Therapeutics, Inc.	22 %	21 %	19 %
SaponiQx, Inc.	30 %	27 %	6 %

Changes in non-controlling interest for the years ended December 31, 2022, 2021 and 2020 were as follows (in thousands):

	2022	2021	2020
Beginning balance	\$ 13,469	\$ (7,826)	\$ (5,981)
Net loss attributable to non-controlling interest	(10,582)	(4,798)	(1,977)
Other items:			
Sale of subsidiary shares in an initial public offering	—	21,230	—
Issuance of subsidiary shares to non-controlling interest	—	3,243	132
Issuance of subsidiary shares for employee bonus	294	—	—
Subsidiary share-based compensation	3,195	1,620	—
Total other items	3,489	26,093	132
Ending balance	<u>\$ 6,376</u>	<u>\$ 13,469</u>	<u>\$ (7,826)</u>

Sale of Subsidiary Shares in an Initial Public Offering

In the fourth quarter of 2021, the MiNK Therapeutics initial public offering was completed, resulting in an increase to non-controlling interest of \$21.2 million as of December 31, 2021.

Issuance of Subsidiary Shares to Non-controlling Interest

Shares of SaponiQx were issued in exchange for future services, resulting in an increase to non-controlling interest of \$3.2 million and \$0.1 million as of December 31, 2021 and 2020, respectively.

Subsidiary Share-based Compensation

Subsidiary share-based compensation attributed to non-controlling interest represents share-based compensation expense for awards issued by both MiNK Therapeutics and SaponiQx.

(13) Share-based Compensation Plans

On April 10, 2019, our Board of Directors adopted, and on June 19, 2019, our stockholders approved, our 2019 Equity Incentive Plan (the “2019 EIP”). On June 8, 2022 and June 15, 2021, our stockholders approved amendments to the 2019 EIP, increasing the number of shares available for issuance. The 2019 EIP provides for the grant of incentive stock options intended to qualify under Section 422 of the Code, nonstatutory stock options, restricted stock, unrestricted stock and other equity-based awards, such as stock appreciation rights, phantom stock awards, and restricted stock units, which we refer to collectively as Awards, for up to 70.2 million shares of our common stock (subject to adjustment in the event of stock splits and other similar events).

The Board of Directors appointed the Compensation Committee to administer the 2019 EIP. No awards will be granted under the 2019 EIP after June 19, 2029.

In the second quarter of 2019, our Board of Directors adopted, and on June 16, 2020, our stockholders approved the 2019 Employee Stock Purchase Plan (the “2019 ESPP”) to provide eligible employees the opportunity to acquire our common stock in a program designed to comply with Section 423 of the Code. On June 15, 2021, our stockholders approved an amendment to the 2019 ESPP, increasing the number of shares available for issuance. There are 1.0 million shares reserved for issuance under the 2019 ESPP.

Our Directors’ Deferred Compensation Plan, as amended, permits each outside director to defer all, or a portion of, their cash compensation until their service as a director ends or until a specified date into a cash account or a stock account. On June 8, 2022, our stockholders approved an amendment to this plan, increasing the number of shares available for issuance. There are 775,000 shares of our common stock reserved for issuance under this plan. As of December 31, 2022, 77,173 shares had been issued. Amounts deferred to a cash account will earn interest at the rate paid on one-year Treasury bills with interest added to the account annually. Amounts deferred to a stock account will be converted on a quarterly basis into a number of units representing shares of our common stock equal to the amount of compensation which the participant has elected to defer to the stock account divided by the applicable price for our common stock. The applicable price for our common stock has been defined as the average of the closing price of our common stock for all trading days during the calendar quarter preceding the conversion date as reported by The Nasdaq Capital Market. Pursuant to this plan, a total of 641,458 units, each representing a share of our common stock at a weighted average common stock price of \$4.03, had been credited to participants’ stock accounts as of December 31, 2022. The compensation charges for this plan were immaterial for all periods presented.

On November 4, 2015, our Board of Directors adopted and approved our 2015 Inducement Equity Plan (the “2015 IEP”) in compliance with and in reliance on NASDAQ Listing Rule 5635(c)(4), which exempts inducement grants from the general requirement of the NASDAQ Listing Rules that equity-based compensation plans and arrangements be approved by stockholders. There are 1,500,000 shares of our common stock reserved for issuance under the 2015 IEP.

We primarily use the Black-Scholes option pricing model to value options granted to employees and non-employees, as well as options granted to members of our Board of Directors. All stock option grants have 10-year terms and generally vest ratably over a 3 or 4-year period.

The fair value of each option granted during the periods was estimated on the date of grant using the following weighted average assumptions:

	2022	2021	2020
Expected volatility	68 %	49 %	66 %
Expected term in years	6	4	6
Risk-free interest rate	1.8 %	0.8 %	0.8 %
Dividend yield	0 %	0 %	0 %

Expected volatility is based exclusively on historical volatility data of our common stock. The expected term of stock options granted is based on historical data and other factors and represents the period of time that stock options are expected to be outstanding prior to exercise. The risk-free interest rate is based on U.S. Treasury strips with maturities that match the expected term on the date of grant.

A summary of option activity for 2022 is presented below:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding at December 31, 2021	32,764,087	\$ 3.66		
Granted	8,037,869	2.93		
Exercised	(103,339)	2.22		
Forfeited	(3,445,844)	3.27		
Expired	(1,267,806)	4.42		
Outstanding at December 31, 2022	<u>35,984,967</u>	3.51	6.90	\$ 1,170,051
Vested or expected to vest at December 31, 2022	<u>35,984,967</u>	3.51	6.90	\$ 1,170,051
Exercisable at December 31, 2022	<u>21,575,514</u>	\$ 3.73	5.77	\$ 820,816

The weighted average grant-date fair values of options granted during the years ended December 31, 2022, 2021, and 2020, was \$1.75, \$2.81, and \$2.04, respectively.

The aggregate intrinsic value in the table above represents the difference between our closing stock price on the last trading day of fiscal 2022 and the exercise price, multiplied by the number of in-the-money options that would have been received by the option holders had all option holders exercised their options on December 31, 2022 (the intrinsic value is considered to be zero if the exercise price is greater than the closing stock price). This amount changes based on the fair market value of our stock. The total intrinsic value of options exercised during the years ended December 31, 2022, 2021, and 2020, determined on the dates of exercise, was \$70,000, \$4.2 million, and \$1.2 million, respectively.

During 2022, 2021, and 2020, all options were granted with exercise prices equal to the market value of the underlying shares of common stock on the grant date other than certain awards dated December 24, 2019, December 17, 2020 and December 31, 2020. In December 2019, our Board of Directors approved certain awards. However, the awards were not communicated until February 2020. Accordingly, these awards have a grant date of February 2020 with an exercise price as of the date the Board of Director's approved the awards in December 2019. On December 17, 2020 our Board of Directors approved certain awards. However, the awards were not communicated until March 2021. Accordingly, these awards have a grant date of March 2021 with an exercise price as of the date the Board of Director's approved the awards in December 2020. On December 31, 2020, our Board of Directors approved certain awards subject to forfeiture in the event stockholder approval was not obtained for an increase in shares available for issuance under our 2019 EIP. This approval was obtained in June 2021. Accordingly, these awards have a grant date of June 2021, with an exercise price as of the date the Board of Director's approved the awards in December 2020.

As of December 31, 2022, there was \$29.0 million of unrecognized share-based compensation expense related to these stock options and stock options granted under a subsidiary plan which, if all milestones are achieved, will be recognized over a weighted average period of 2.1 years.

Certain employees and consultants have been granted non-vested stock. The fair value of non-vested market-based awards is calculated based on a Monte Carlo simulation as of the date of issuance. The fair value of other non-vested stock is calculated based on the closing sale price of our common stock on the date of issuance.

A summary of non-vested stock activity for 2022 is presented below:

	Nonvested Shares	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2021	1,018,051	\$ 2.39
Granted	4,442,830	2.49
Vested	(4,320,579)	2.58
Forfeited	(784,500)	2.15
Outstanding at December 31, 2022	<u>355,802</u>	<u>\$ 2.50</u>

As of December 31, 2022, there was \$1.5 million of unrecognized share-based compensation expense related to these non-vested shares and non-vested shares granted under a subsidiary plan which, if all milestones are achieved, will be recognized over a weighted average period of 1.4 years. The total intrinsic value of shares vested during the years ended December 31, 2022, 2021, and 2020, was \$10.9 million, \$5.8 million, and \$621,000, respectively.

Cash received from option exercises and purchases under our 2019 ESPP for the years ended December 31, 2022, 2021, and 2020, was \$0.9 million, \$9.1 million, and \$4.5 million, respectively.

We issue new shares upon option exercises, purchases under our 2019 ESPP, vesting of non-vested stock and under the Directors' Deferred Compensation Plan. During the years ended December 31, 2022, 2021, and 2020, 103,339 shares, 2,502,716 shares, and 1,161,757 shares, respectively, were issued as a result of stock option exercises. During the years ended December 31, 2022, 2021, and 2020, 326,203 shares, 241,507 shares, and 236,855 shares, were issued under the 2019 ESPP, respectively. During the years ended December 31, 2022, 2021, and 2020, 230,499 shares, 246,481 shares, and 165,632 shares, respectively, were issued as a result of the vesting of non-vested stock. Additionally, during the years ended December 31, 2022 and 2021, 4,090,080 shares and 1,579,651 shares were issued as payment for certain employee bonuses, with 1,446,849 and 550,087 of those shares being withheld to cover taxes, resulting in a net share issuance of 2,643,231 and 1,029,564.

The impact on our results of operations from share-based compensation for the years ended December 31, 2022, 2021, and 2020, was as follows (in thousands).

	Year Ended		
	2022	2021	2020
Research and development	\$ 4,847	\$ 4,528	\$ 3,758
General and administrative	13,391	14,606	6,363
Total share-based compensation expense	<u>\$ 18,238</u>	<u>\$ 19,134</u>	<u>\$ 10,121</u>

(14) License, Research, and Other Agreements

On December 5, 2014, Agenus Switzerland, entered into a license agreement with the Ludwig Institute for Cancer Research Ltd., or Ludwig, which replaced and superseded a prior agreement entered into between the parties in May 2011. Pursuant to the terms of the license agreement, Ludwig granted Agenus Switzerland an exclusive, worldwide license under certain intellectual property rights of Ludwig and Memorial Sloan Kettering Cancer Center arising from the prior agreement to further develop and commercialize G1TR, OX40 and TIM-3 antibodies. On January 25, 2016, we and Agenus Switzerland entered into a second license agreement with Ludwig, on substantially similar terms, to develop CTLA-4 and PD-1 antibodies. Pursuant to the December 2014 license agreement, Agenus Switzerland made an upfront payment of \$1.0 million to Ludwig. The December 2014 license agreement also obligates Agenus Switzerland to make potential milestone payments of up to \$20.0 million for events prior to regulatory approval of licensed G1TR, OX40 and TIM-3 products, and potential milestone payments in excess of \$80.0 million if such licensed products are approved in multiple jurisdictions, in more than one indication, and certain sales milestones are achieved. Under the January 2016 license agreement, we are obligated to make potential milestone payments of up to \$12.0 million for events prior to regulatory approval of CTLA-4 and PD-1 licensed products, and potential milestone payments of up to \$32.0 million if certain sales milestones are achieved. Under each of these license agreements, we and/or Agenus Switzerland will also be obligated to pay low to mid-single digit royalties on all net sales of licensed products during the royalty period, and to pay Ludwig a percentage of any sublicensing income, ranging from a low to mid-double digit percentage depending on various factors. The license agreements may each be terminated as follows: (i) by either party if the other party commits a material, uncured breach; (ii) by either party if the other party initiates bankruptcy, liquidation or similar proceedings; or (iii) by Agenus Switzerland or us (as applicable) for convenience upon 90 days' prior written notice. The license agreements also contain customary representations and warranties, mutual indemnification, confidentiality and arbitration provisions. Effective December 31, 2022, the license was assigned to Agenus.

We have entered into various cancellable agreements with contract manufacturers, institutions, and clinical research organizations (collectively "third party providers") to perform pre-clinical activities and to conduct and monitor our clinical studies. Under these agreements, subject to the enrollment of patients and performance by the applicable third-party provider, we have estimated our total payments to be \$566.6 million over the term of the studies. For the years ended December 31, 2022, 2021, and 2020, \$66.3 million, \$72.8 million, and \$64.7 million, respectively, have been expensed in the accompanying consolidated statements of operations related to these third-party providers. Through December 31, 2022, we have expensed \$457.8 million as research and development expenses and \$439.1 million of this amount has been paid. The timing of expense recognition and future payments related to these agreements is subject to the enrollment of patients and performance by the applicable third-party provider.

(15) Revenue from Contracts with Customers

Bristol Myers Squibb Company License Agreement

On May 17, 2021, we entered into a License, Development and Commercialization Agreement ("BMS License Agreement") with Bristol Myers Squibb Company ("BMS") to collaborate on the development and commercialization of our proprietary anti-TIGIT bispecific antibody program AGEN1777. Pursuant to the BMS License Agreement, we received a non-refundable upfront cash payment of \$200.0 million and are eligible to receive up to \$1.36 billion in aggregate development, regulatory and commercial milestone payments plus the tiered royalties described below. In July 2021, the BMS License Agreement closed, and we received the \$200.0 million upfront payment.

In October 2021, we announced that the first patient was dosed in the AGEN1777 Phase 1 clinical trial, triggering the achievement of a \$20.0 million milestone. We received this milestone in December 2021 and as of December 31, 2022, remain eligible to receive up to an additional \$1.34 billion in aggregate development, regulatory and commercial milestone payments.

Under the BMS License Agreement, we granted BMS an exclusive worldwide license under certain of our intellectual property rights to develop, manufacture and commercialize AGEN1777 and its derivatives in all fields; provided, we retained an option to access the licensed antibodies for use in clinical studies in combination with certain of our other pipeline assets subject to certain restrictions. In exchange, BMS is responsible for all of the development, regulatory approval, manufacturing and commercialization costs with respect to products containing AGEN1777. In addition to the upfront and potential milestone payments described above, we will receive tiered double-digit royalties on worldwide net sales of products containing AGEN1777 ranging from the low double-digit to mid-teens percent. Additionally, we have the option, but not the obligation, to co-fund a minority of the global development costs of products containing AGEN1777 or its derivatives, in exchange for increased tiered royalties on U.S. net sales of co-funded products ranging from the mid-teens to low twenties percent and ex-U.S. net sales of co-funded products ranging from the low double digits to mid-teens percent. All royalties are subject to certain reductions under certain circumstances as described in the BMS License Agreement. Finally, we also have the option to co-promote AGEN1777 in the U.S.

The royalty term shall terminate on a product-by-product and country-by-country basis on the latest of (i) 10 year anniversary of the first commercial sale of such product in such country, (ii) the expiration of any regulatory exclusivity period that covers such product in such country, and (iii) the expiration of the last-to-expire licensed patent that covers such product in such country.

The BMS License Agreement includes customary representations and warranties, covenants, indemnification obligations for a transaction of this nature. Under the terms of the BMS License Agreement, we and BMS each have the right to terminate the agreement for material breach by, or insolvency of, the other party following notice, and if applicable, a cure period. BMS may also terminate the BMS License Agreement in its entirety, or on a product-by-product or country-by-country basis, for convenience upon 180 days' notice.

License Revenue

We identified a single performance obligation under the BMS License Agreement, the license of AGEN1777 ("AGEN1777 License"). All other promised goods/services were deemed immaterial in the context of the contract. We determined that the AGEN1777 License was both capable of being distinct and distinct within the context of the contract as the AGEN1777 License has significant stand-alone functionality as of contract inception and BMS can begin deriving benefit from the AGEN1777 License without consideration of the immaterial services.

We determined that there were no significant financing components, noncash consideration, or amounts that may be refunded to the customer, and as such the total upfront fixed consideration of the AGEN1777 License totaling \$200.0 million would be included in the total transaction price. We concluded that the standalone selling price of the AGEN1777 License approximated the \$200.0 million upfront fee and as such the full amount would be recognized at a point-in-time, upon delivery of the AGEN1777 License to BMS at contract inception.

For the year ended December 31, 2022, no revenue was recognized. For the year ended December 31, 2021, under the BMS License Agreement, we recognized \$200.0 million in research and development revenue related to the transfer of the AGEN1777 License and \$20.0 million in research and development revenue related to the achievement of a milestone.

Betta License Agreement

In June 2020, we entered into a license and collaboration agreement (the “Betta License Agreement”) with Betta Pharmaceuticals Co., Ltd. (“Betta”), pursuant to which we granted Betta an exclusive license to develop, manufacture and commercialize balstilimab and zalifrelimab in Greater China. Under the terms of the Betta License Agreement, we received \$15.0 million upfront in July 2020 and are eligible to receive up to \$100.0 million in milestone payments plus royalties on any future sales in Greater China.

We also entered into a stock purchase agreement with Betta and a wholly-owned subsidiary of Betta (“Betta HK”). Refer to Note 10 – Equity for additional detail.

We identified the following performance obligations under the Betta License Agreement: (1) the license of balstilimab and zalifrelimab and (2) our obligation to complete manufacturing technology transfer activities to Betta (the “Technology Transfer”) for balstilimab and zalifrelimab.

We determined that the license of balstilimab and zalifrelimab was both capable of being distinct and distinct within the context of the contract as the license has significant stand-alone functionality as of contract inception based on the advanced development stage of balstilimab and zalifrelimab. Betta can begin deriving benefit from the license prior to the Technology Transfer being completed. The Technology Transfer is completed over time and is separate from the transfer of the balstilimab and zalifrelimab license, which occurred at contract inception. As a result, we concluded that the balstilimab and zalifrelimab license and Technology Transfer are separate performance obligations.

We determined that there were no significant financing components, noncash consideration, or amounts that may be refunded to the customer, and as such the total upfront fixed consideration of \$15.0 million would be included in the total transaction price and be allocated to the identified performance obligations using the relative standalone selling price method.

We determined the estimated standalone selling price of the balstilimab and zalifrelimab license by applying a risk adjusted, net present value, estimate of future cash flow approach. We determined the estimated standalone selling price of the Technology Transfer by using the estimated costs of satisfying the performance obligation, plus an appropriate margin for such services.

Revenue attributable to the balstilimab and zalifrelimab license was recognized at a point-in-time, upon delivery of the license to Betta at contract inception. The Technology Transfer is satisfied over time and revenue attributable to this performance obligation will be recognized as the related services are being performed using the input of costs incurred over total costs expected to be incurred. We believe this is the best measure of progress because other measures do not reflect how we transfer the performance obligation to Betta.

For the years ended December 31, 2022, 2021 and 2020, we recognized \$0.7 million, \$0.6 million and \$13.9 million, respectively, of research and development revenue related to the Betta License Agreement.

UroGen License Agreement

In November 2019, we entered into a License Agreement with UroGen Pharma Ltd. (the “UroGen License Agreement”) in which we granted a license of AGEN1884 for use with UroGen's sustained release technology for intravesical delivery in patients with urinary tract cancers. Pursuant to the terms of the UroGen License Agreement, we received an upfront cash payment from UroGen of \$10.0 million. We are eligible to receive up to \$200.0 million in potential development, regulatory and commercial milestones, as well as 14-20% royalties on net sales of the products containing AGEN1884.

We identified the following performance obligations under the UroGen License Agreement: (1) the license of AGEN1884 that we granted UroGen, and (2) the clinical supply of AGEN1884 that we agreed to supply to UroGen. We determined that the license of AGEN1884 was both capable of being distinct and distinct within the context of the contract as the license has significant stand-alone functionality as of contract inception based on the advanced development stage of AGEN1884. We also determined that the clinical supply of AGEN1884 was both capable of being distinct and distinct within the context of the contract as it was considered a readily available resource in the market.

We determined that there were no significant financing components, noncash consideration, or amounts that may be refunded to the customer, and as such the total upfront fixed consideration of the license totaling \$10.0 million would be included in the total transaction price. We concluded that the combined standalone selling price of the license approximated the \$10.0 million upfront fee and as such the full amount will be recognized at a point-in-time, upon delivery of the license to UroGen at contract inception. We

will not estimate the transaction price in order to recognize the revenue related to the AGEN1884 supply due to the “as invoiced” practical expedient.

For the years ended December 31, 2022, 2021 and 2020, we recognized approximately \$0.2 million, \$0.3 million and \$63,000, respectively, of research and development revenue related to the UroGen License Agreement.

Gilead Collaboration Agreement

On December 20, 2018, we entered into a series of agreements with Gilead focused on the development and commercialization of up to five novel immuno-oncology therapies. Pursuant to the terms of the license agreement, the option and license agreements and the stock purchase agreement we entered into with Gilead (collectively, the “Gilead Collaboration Agreements”), at the closing of the transaction on January 23, 2019 (the “Effective Date”), we received an upfront cash payment from Gilead of \$120.0 million and Gilead made a \$30.0 million equity investment in Agenus.

License Agreement

Pursuant to the terms of a license agreement between the parties (the “License Agreement”), we granted Gilead an exclusive, worldwide license under certain of our intellectual property rights to develop, manufacture and commercialize our preclinical bispecific antibody, AGEN1423, in all fields of use. We filed an investigational new drug (“IND”) application for AGEN1423 in February 2019, and the IND was accepted by the FDA in March 2019. On November 6, 2020, we received notice from Gilead that it would return AGEN1423 back to us and voluntarily terminate the License Agreement, effective as of February 4, 2021.

Option and License Agreements

Pursuant to the terms of two separate option and license agreements between the parties (each, an “Option and License Agreement” and together, the “Option and License Agreements”), we granted Gilead exclusive options to license exclusively (“License Option”) our bispecific antibody, AGEN1223, and our monospecific antibody, AGEN2373 (together, the “Option Programs”), during the respective Option Periods (defined below). Pursuant to the terms of the Option and License Agreements, we agreed to grant Gilead an exclusive, worldwide license under our intellectual property rights to develop, manufacture and commercialize AGEN1223 or AGEN2373, as applicable, in all fields of use upon Gilead’s exercise of the applicable License Option. Gilead is entitled to exercise its License Option for either or both Option Programs at any time up until ninety (90) days following Gilead’s receipt of a data package with respect to the first complete Phase 1b clinical trial for each Option Program (the “Option Period”). During the Option Period, we are responsible for the costs and expenses related to the development of the Option Programs. After Gilead’s exercise of a License Option, if at all, Gilead would be responsible for all development, manufacturing and commercialization activities relating to the relevant Option Program at Gilead’s cost and expense. In the third quarter of 2021 we ceased development of AGEN1223 and in October 2021 the AGEN1223 option and license agreement was formally terminated. The AGEN2373 Option and License Agreement and the Stock Purchase Agreement remain in full force and effect.

If Gilead exercises the AGEN2373 License Option, it would be required to pay an upfront license exercise fee of \$50.0 million. Following the exercise of the AGEN2373 License Option, we would be eligible to receive additional development and commercial milestones of up to \$520.0 million in the aggregate, as well as tiered royalty payments on aggregate net sales. We will have the right to opt-in to share Gilead’s development and commercialization costs in the United States for the AGEN2373 Option Program in exchange for a profit (loss) share on a 50:50 basis and revised milestone payments. We filed an IND for AGEN2373 in 2019, and it is now in clinical development.

Unless earlier terminated, the AGEN2373 Option and License Agreement will continue until the earlier of (i) the expiration of the Option Period, without Gilead’s exercise of the License Option; and (ii) the date all of Gilead’s applicable payment obligations under the Option and License Agreement have been performed or have expired. Under the terms of the AGEN2373 Option and License Agreement, we and Gilead each have the right to terminate the agreement for material breach by, or insolvency of, the other party. Gilead may also terminate the AGEN2373 Option License Agreement in its entirety, or on a product-by-product or country-by-country basis for convenience upon ninety (90) days’ notice.

Research and Development Revenue

For the year ended December 31, 2022, we recognized research and development revenue of \$5.0 million related to the achievement of a milestone and \$9.5 million based on the partial satisfaction of the over time performance obligations as of period end. For the years ended December 31, 2021 and 2020, we recognized \$22.4 million and \$12.3 million, respectively, of research and development revenue related to the Gilead Collaboration Agreements based on the partial satisfaction of the over time performance obligations as of period end. For the year ended December 31, 2021, the amount also includes deferred revenue recognized in connection with the termination of AGEN1223 development.

We expect to recognize deferred research and development revenue of \$12.2 million in 2023, related to performance obligations that are unsatisfied or partially unsatisfied as of December 31, 2022.

Incyte Collaboration Agreement

On January 9, 2015 and effective February 19, 2015, we entered into a global license, development and commercialization agreement (the “Collaboration Agreement”) with Incyte pursuant to which the parties plan to develop and commercialize novel immuno-therapeutics using our antibody discovery platforms. The Collaboration Agreement was initially focused on four checkpoint modulator programs directed at GITR, OX40, LAG-3 and TIM-3. In addition to the four identified antibody programs, the parties have an option to jointly nominate and pursue the development and commercialization of antibodies against additional targets during a five-year discovery period which, upon mutual agreement of the parties for no additional consideration, can be extended for an additional three years. In November 2015, we and Incyte jointly nominated and agreed to pursue the development and commercialization of three additional checkpoint targets. In February 2017, we amended the Collaboration Agreement by entering into a First Amendment to License, Development and Commercialization Agreement (the “First Amendment”). In October 2019, we further amended the Collaboration Agreement by entering into a Second Amendment to License, Development and Commercialization Agreement (the “Second Amendment”). See “Amendments” section below.

Pursuant to the XOMA Royalty Purchase Agreement, we sold to XOMA 33% of the future royalties and 10% of the future milestones that we were entitled to receive from Incyte, excluding the \$5.0 million milestone that we recognized in the three months ended September 30, 2018. As of December 31, 2022, we remain eligible to receive up to \$405.0 million in future potential development, regulatory and commercial milestones across all programs in the collaboration, as well as 67% of all future royalties on worldwide product sales.

Agreement Structure

Under the terms of the Collaboration Agreement, we received non-creditable, nonrefundable upfront payments totaling \$25.0 million. In addition, until the Amendment, the parties shared all costs and profits for the GITR, OX40 and two of the additional antibody programs on a 50:50 basis (profit-share products), and we were eligible to receive up to \$20.0 million in future contingent development milestones under these programs. Incyte is obligated to reimburse us for all development costs that we incur in connection with the TIM-3, LAG-3 and one of the additional antibody programs (royalty-bearing products) and we are eligible to receive (i) up to \$155.0 million in future contingent development, regulatory, and commercialization milestone payments and (ii) tiered royalties on global net sales at rates generally ranging from 6% to 12%. For each royalty-bearing product, we will also have the right to elect to co-fund 30% of development costs incurred following initiation of pivotal clinical trials in return for an increase in royalty rates. Additionally, we had the option to retain co-promotion participation rights in the United States on any profit-share product. Through the direction of a joint steering committee, until the Amendment, the parties anticipated that, for each program, we would serve as the lead for pre-clinical development activities through investigational new drug (“IND”) application filing, and Incyte would serve as the lead for clinical development activities. The parties initiated the first clinical trials of antibodies arising from these programs in 2016. For each additional program beyond GITR, OX40, TIM-3 and LAG-3 that the parties elect to bring into the collaboration, we will have the option to designate it as a profit-share product or a royalty-bearing product.

The Collaboration Agreement will continue as long as (i) any product is being developed or commercialized or (ii) the discovery period remains in effect. Incyte may terminate the Collaboration Agreement or any individual program for convenience upon 12 months’ notice. The Collaboration Agreement may also be terminated by either party upon the occurrence of an uncured material breach of the other party or by us if Incyte challenges patent rights controlled by us. In addition, either party may terminate the Collaboration Agreement as to any program if the other party is acquired and the acquiring party controls a competing program.

Amendments

Pursuant to the terms of the First Amendment, the GITR and OX40 programs immediately converted from profit-share programs to royalty-bearing programs and we became eligible to receive a flat 15% royalty on global net sales should any candidates from either of these two programs be approved. Incyte is now responsible for global development and commercialization and all associated costs for these programs. In addition, the profit-share programs relating to TIGIT and one undisclosed target were removed from the collaboration, with the undisclosed target reverting to Incyte and TIGIT to Agenus. Should any of those programs be successfully developed by a party, the other party will be eligible to receive the same milestone payments as the royalty-bearing programs and royalties at a 15% rate on global net sales. The terms for the remaining three royalty-bearing programs targeting TIM-3, LAG-3 and one undisclosed target remain unchanged, with Incyte being responsible for global development and commercialization and all associated costs. The Amendment gives Incyte exclusive rights and all decision-making authority for manufacturing, development, and commercialization with respect to all royalty-bearing programs.

In connection with the First Amendment, Incyte paid us \$20.0 million in accelerated milestones related to the clinical development of the antibody candidates targeting GITR and OX40.

Pursuant to the terms of the Second Amendment, we transitioned preclinical development and IND preparation of the undisclosed target to Incyte.

In October 2022, Incyte notified us of their intent to terminate the OX40 program, effective October 2023. Upon termination, the rights to the OX40 program revert back to us.

Research and Development Revenue

For the years ended December 31, 2022, 2021 and 2020, we recognized approximately \$1.6 million, \$1.2 million and \$0.7 million, respectively, of research and development revenue for research and development services provided.

Merck Collaboration and License Agreement

During the quarter ended June 30, 2014, we entered into a collaboration and license agreement with Merck to discover and optimize fully-human antibodies against two undisclosed cancer targets using the Retrocyte Display[®]. Under this agreement, Merck is responsible for the clinical development and commercialization of antibodies generated under the collaboration. There are no unsatisfied performance obligations relating to this contract. Pursuant to the XOMA Royalty Purchase Agreement (see Note 19), we sold to XOMA 33% of the future royalties and 10% of the future milestones that we are entitled to receive from Merck, and we remain eligible to receive from Merck approximately \$76.5 million in potential payments associated with the completion of certain clinical, regulatory and commercial milestones, as well as 67% of all future royalties on worldwide product sales.

For the years ended December 31, 2022 and 2021, no revenue was recognized. For the year ended December 31, 2020, we recognized \$9.0 million in research and development revenue and \$1.0 million in non-cash milestone revenue related to the achievement of a milestone.

GSK License and Amended GSK Supply Agreements

In July 2006, we entered into a license agreement and a supply agreement with GSK for the use of QS-21 STIMULON (the “GSK License Agreement” and the “GSK Supply Agreement”, respectively). In January 2009, we entered into an Amended and Restated Manufacturing Technology Transfer and Supply Agreement (the “Amended GSK Supply Agreement”) under which GSK has the right to manufacture all of its requirements of commercial grade QS-21 STIMULON. GSK is obligated to supply us (or our affiliates, licensees, or customers) certain quantities of commercial grade QS-21 STIMULON for a stated period of time. Under these agreements, GSK paid an upfront license fee of \$3.0 million and agreed to pay aggregate milestones of \$5.0 million. In July 2007, the Amended GSK Supply Agreement was further amended, and we were paid an additional fixed fee of \$7.3 million. In March 2012 we entered into a First Right to Negotiate and Amendment Agreement amending the GSK License Agreement and the Amended GSK Supply Agreement to clarify and include additional rights for the use of our QS-21 STIMULON (the “GSK First Right to Negotiate Agreement”). In addition, we granted GSK the first right to negotiate for the purchase of the Company or certain of our assets, which such rights expired in March 2017. As consideration for entering into the GSK First Right to Negotiate Agreement, GSK paid us an upfront, non-refundable payment of \$9.0 million, \$2.5 million of which is creditable toward future royalty payments. As of December 31, 2017, we had received all of the potential \$24.3 million in upfront and milestone payments related to the GSK Agreements. We were also generally entitled to receive 2% royalties on net sales of prophylactic vaccines for a period of 10 years after the first commercial sale of a resulting GSK product. We sold these royalty rights to HCR in January 2018 pursuant to the HCR Royalty Purchase Agreement but continue to recognize revenue under the GSK Agreements because the sale to HCR was accounted for as a borrowing arrangement (See Note 19).

The GSK License and Amended GSK Supply Agreements may be terminated by either party upon a material breach if the breach is not cured within the time specified in the respective agreement. The termination or expiration of the GSK License Agreement does not relieve either party from any obligation which accrued prior to the termination or expiration. Among other provisions, the license rights granted to GSK survive expiration of the GSK License Agreement. The license rights and payment obligations of GSK under the Amended GSK Supply Agreement survive termination or expiration, except that GSK's license rights and future royalty obligations do not survive if we terminate due to GSK's material breach unless we elect otherwise.

For the year ended December 31, 2022, we recognized \$25.3 million in royalty sales milestone revenue, which was cash-settled based on the terms of the arrangement with HCR, and \$45.3 million in non-cash royalty revenue. For the years ended December 31, 2021 and 2020, we recognized \$44.4 million and \$46.5 million, respectively, in non-cash royalty revenue.

Disaggregation of Revenue

The following table presents revenue (in thousands) for years ended December 31, 2022, 2021 and 2020, disaggregated by geographic region and revenue type. Revenue by geographic region is allocated based on the domicile of our respective business operations.

Revenue Type	Year ended December 31, 2022		
	United States	Rest of World	Total
Licence fees and milestones	\$ 5,000	\$ —	\$ 5,000
Royalty sales milestone	25,250	—	25,250
Clinical product revenue	762	—	762
Research and development services	1,676	—	1,676
Other services	—	10,514	10,514
Recognition of deferred research and development revenue	9,537	—	9,537
Non-cash royalties	45,285	—	45,285
	\$ 87,510	\$ 10,514	\$ 98,024

Revenue Type	Year ended December 31, 2021		
	Licence fees and milestones	\$ 220,000	\$ —
Clinical product revenue	587	—	587
Research and development services	1,476	—	1,476
Other services	—	6,704	6,704
Recognition of deferred research and development revenue	22,359	—	22,359
Recognition of deferred grant revenue	184	—	184
Non-cash royalties	44,355	—	44,355
	\$ 288,961	\$ 6,704	\$ 295,665

Revenue Type	Year ended December 31, 2020		
	Licence fees and milestones	\$ 22,857	\$ —
Research and development services	754	—	754
Other services	—	4,619	4,619
Recognition of deferred research and development revenue	12,304	—	12,304
Recognition of deferred grant revenue	91	—	91
Non-cash royalties and milestones	47,545	—	47,545
	\$ 83,551	\$ 4,619	\$ 88,170

Contract Balances

Contract assets primarily relate to our rights to consideration for work completed in relation to our research and development services performed but not billed at the reporting date. Contract assets are transferred to receivables when the rights become unconditional. Currently, we do not have any contract assets which have not transferred to a receivable. We had no asset impairment charges related to contract assets in the period. Contract liabilities primarily relate to contracts where we received payments but have not yet satisfied the related performance obligations. The advance consideration received from customers for research and development services or licenses bundled with other promises is a contract liability until the underlying performance obligations are transferred to the customer.

The following table provides information about contract liabilities from contracts with customers (in thousands):

Year ended December 31, 2022	Balance at beginning of period	Additions	Deductions	Balance at end of period
Contract liabilities:				
Deferred revenue	\$ 23,625	\$ 214	\$ (10,427)	\$ 13,412

The change in contract liabilities is primarily related to the recognition of \$9.5 million of revenue related to the Gilead Collaboration Agreements during the year ended December 31, 2022. Deferred revenue related to the Gilead Collaboration Agreements of \$12.2 million as of December 31, 2022, which was comprised of the \$142.5 million initial transaction price, less \$130.3 million of research and development revenue recognized from the effective date of the contract, will be recognized as the combined performance obligation is satisfied.

We also recorded a \$2.1 million receivable as of December 31, 2022 for research and development and other services provided.

In the year ended December 31, 2022, we did not recognize any revenue from amounts included in the contract asset or the contract liability balances from performance obligations satisfied in previous periods. None of the costs to obtain or fulfill a contract were capitalized.

(16) Related Party Transactions

During the years ended December 31, 2022 and 2021, our Audit and Finance Committee approved the performance of research and development manufacturing services totaling \$106,000 and \$291,000 for Protagenic Therapeutics, Inc ("Protagenic"). We will be reimbursed for these services on an actual time and materials basis. During the year ended December 31, 2022, our Audit and Finance Committee approved a contract between a wholly-owned subsidiary of Agenus and Protagenic for the performance of clinical trial services totaling approximately \$1.1 million. For the year ended December 31, 2022, approximately \$171,000 of service revenue was recognized related to these services. The remainder of these services are expected to be completed over the next year. Dr. Garo H. Armen, our CEO, is Executive Chairman of and has a greater than 10% equity interest in Protagenic.

(17) Leases

The majority of our operating lease agreements are for the office, research and development and manufacturing space we use to conduct our operations.

We lease space in Lexington, Massachusetts for our manufacturing, research and development, and corporate offices, office space in New York, New York for use as corporate offices, facilities in Berkeley, California, for manufacturing and corporate offices, a facility in Emeryville, California for the development of a cGMP manufacturing facility and a facility in Cambridge, United Kingdom for research and development and corporate offices. We had subleased a small portion of the space in our main Lexington facility for part of the associated head lease. This sublease expired in 2022. These agreements expire at various times between 2023 and 2036, with options to extend certain of the leases.

We also have finance lease agreements for research and manufacturing equipment that expire at various times between 2023 and 2025. The terms of one of our finance lease agreements require us to maintain a specified minimum cash balance.

The components of lease cost recorded in our consolidated statement of operations were as follows (in thousands):

	Year ended December 31,		
	2022	2021	2020
Operating lease cost	\$ 9,351	\$ 8,878	\$ 4,698
Finance lease cost	309	407	375
Variable lease cost	3,108	1,826	1,887
Sublease income	(613)	(595)	(578)
Net lease cost	\$ 12,155	\$ 10,516	\$ 6,382

Variable lease cost for the years ended December 31, 2022, 2021 and 2020, primarily related to common area maintenance, taxes, utilities and insurance associated with our operating leases. Short-term lease cost for the years ended December 31, 2022, 2021 and 2020 was immaterial.

Cash paid for amounts included in the measurement of operating lease liabilities for the years ended December 31, 2022, 2021 and 2020 was approximately \$2.6 million, \$2.1 million and \$1.6 million, respectively. Cash paid for amounts included in the measurement of finance lease liabilities for the years ended December 31, 2022, 2021 and 2020 was approximately \$0.5 million, \$0.9 million and \$1.8 million, respectively.

The following table presents supplemental balance sheet information related to our leases as of December 31, 2022 and 2021 (in thousands):

	As of December 31, 2022	As of December 31, 2021
Operating Leases		
Operating lease right-of-use assets	\$ 31,269	\$ 31,054
Total operating lease right-of-use assets	31,269	31,054
Current portion, operating lease liabilities	1,943	2,627
Operating lease liabilities, net of current portion	63,326	42,109
Total operating lease liabilities	65,269	44,736
Finance Leases		
Property, plant and equipment, net	31,764	2,663
Total finance lease right-of-use assets	31,764	2,663
Other current liabilities	7,952	335
Other long-term liabilities	12,270	318
Total finance lease liabilities	\$ 20,222	\$ 653

During the year ended December 31, 2022, we recognized an operating lease right-of-use asset impairment loss of approximately \$6.1 million resulting from the abandonment of two facility leases. This impairment loss is recorded in "other expense" in our consolidated statements of operations and comprehensive loss.

Maturities of our operating lease liabilities as of December 31, 2022 were as follows (in thousands):

Year	Operating Leases	Finance leases	Total future lease commitments
2023	\$ 7,834	\$ 9,875	\$ 17,709
2024	9,810	9,814	19,624
2025	10,048	3,516	13,564
2026	9,830	—	9,830
2027	10,122	—	10,122
Thereafter	79,340	—	79,340
Total	\$ 126,984	\$ 23,205	\$ 150,189
Less imputed interest	(61,715)	(2,983)	
Present value of lease liabilities	\$ 65,269	\$ 20,222	

In the above table, expected operating lease payments for the year ending December 31, 2023 include \$2.3 million in lease incentives expected to be received from the lessor of our Emeryville, CA facility related to the construction of tenant improvements.

Total estimated future lease payments of approximately \$4.5 million for a finance lease that had not yet commenced as of December 31, 2022, as we did not control the underlying assets, are not included in these consolidated financial statements. We expect this lease to commence in 2023 with a term of 30 months.

The weighted-average remaining lease terms and discount rates related to our leases were as follows:

	December 31, 2022	
	Operating	Finance
Weighted average remaining lease term (in years)	12.1	2.5
Weighted average discount rate	11.4%	11.5%

(18) Debt

Debt obligations consisted of the following as of December 31, 2022 and 2021 (in thousands):

<u>Debt instrument</u>	<u>Balance at December 31, 2022</u>
Current Portion:	
Debentures	\$ 146
Other	429
Long-term Portion:	
2015 Subordinated Notes	12,584
Total	<u>\$ 13,159</u>
	<u>Balance at December 31, 2021</u>
<u>Debt instrument</u>	
Current Portion:	
Debentures	\$ 146
Other	582
Long-term Portion:	
2015 Subordinated Notes	12,823
Total	<u>\$ 13,551</u>

As of December 31, 2022, and 2021, the principal amount of our outstanding debt balance was \$13.6 million and \$13.8 million, respectively.

Subordinated Notes

On February 20, 2015, we, certain existing investors and certain additional investors entered into an Amended and Restated Note Purchase Agreement (the “2015 Subordinated Notes”) in the aggregate principal amount of \$14.0 million and issued five year warrants (the “2015 Warrants”) to purchase 1,400,000 shares of our common stock at an exercise price of \$5.10 per share.

The 2015 Subordinated Notes bear interest at a rate of 8% per annum, payable in cash on the first day of each month in arrears. Among other default and acceleration terms customary for indebtedness of this type, the 2015 Subordinated Notes include default provisions which allow for the noteholders to accelerate the principal payment of the 2015 Subordinated Notes in the event we become involved in certain bankruptcy proceedings, become insolvent, fail to make a payment of principal or (after a grace period) interest on the 2015 Subordinated Notes, default on other indebtedness with an aggregate principal balance of \$13.5 million or more if such default has the effect of accelerating the maturity of such indebtedness, or become subject to a legal judgment or similar order for the payment of money in an amount greater than \$13.5 million if such amount will not be covered by third-party insurance.

On February 18, 2020, we entered into an amendment to the 2015 Subordinated Notes (the “Amendment”) pursuant to which we:

- extended the maturity date of \$13.5 million of the 2015 Subordinated Notes by three years from February 20, 2020 to February 20, 2023;
- repaid \$0.5 million of the 2015 Subordinated Notes;
- extended the exercise period of the warrants to purchase 1,350,000 shares of the Company’s common stock previously issued in 2015 by three years from February 20, 2020 to February 20, 2023; and
- issued new warrants to purchase 675,000 shares of the Company’s common stock with a term of five years and an exercise price of \$4.48 per share, which represented a 20% premium over the 30-day average trailing closing price of the Company’s common stock as of the date of the Amendment.

In April 2020, we repaid \$0.5 million of the outstanding amended 2015 Subordinated Notes and cancelled the related warrants.

On November 30, 2022, we entered into an Amendment to Notes, Termination of Warrants and Sale of New Warrants (the “2022 Amendment”) pursuant to which we:

- extended the maturity date of the \$13 million 2015 Subordinated Notes by two years from February 20, 2023 to February 20, 2025;
- terminated the warrants held by such noteholders to purchase 1,300,000 shares of the Company’s common stock previously issued in 2015;
- terminated the warrants held by such noteholders to purchase 650,000 shares of the Company’s common stock previously issued in 2020; and
- issued to such noteholders new warrants to purchase 1,300,000 shares of the Company’s common stock that will expire February 20, 2026 and issued new warrants to purchase 650,000 shares of the Company’s common stock that will expire February 20, 2028, all such warrants having an exercise price of \$2.84 per share, which represented a 15% premium over the 30-day average trailing closing price of the Company’s common stock for the period ending November 9, 2022, and (the “New Warrants”).

The amended 2015 Subordinated Notes are not convertible into shares of our common stock and are set to mature on February 23, 2025, at which point we would be required to repay the full outstanding balance in cash. We may prepay the amended 2015 Subordinated Notes at any time, in part or in full, without premium or penalty.

The Amendments were accounted for as debt extinguishments under the guidance of *ASU 470: Debt*. For the years ended December 31, 2022 and 2020, we recorded a loss of approximately \$1.9 million and \$2.7 million, respectively, in other expense in our consolidated statements of operations and comprehensive loss, which primarily represents the fair value of the new and extended warrants. The amended 2015 Subordinated Notes were recorded at fair value.

Payroll Protection Program

In May 2020, we entered into promissory notes with Bank of America, NA for aggregate loan proceeds of approximately \$6.2 million (collectively, the “Loan”) under the Small Business Administration Paycheck Protection Program of the Coronavirus Aid, Relief and Economic Security Act of 2020. In September 2021, we received notification that our forgiveness applications were approved. As such, the Loan was extinguished, and for the year ended December 31, 2021, a \$6.2 million gain was recorded in our consolidated statements of operations and comprehensive loss.

(19) Liability Related to the Sale of Future Royalties and Milestones

The following table shows the activity within the liability account in the year ended December 31, 2022 and for the period from the inception of the royalty transactions to December 31, 2022 (in thousands):

	<u>Year ended December 31, 2022</u>	<u>Period from inception to December 31, 2022</u>
Liability related to sale of future royalties and milestones - beginning balance	\$ 254,105	\$ —
Proceeds from sale of future royalties and milestones	—	205,000
Non-cash royalty and milestone revenue	(45,285)	(184,919)
Non-cash interest expense recognized	62,740	251,479
Liability related to sale of future royalties and milestones - ending balance	271,560	271,560
Less: unamortized transaction costs	(297)	(297)
Liability related to sale of future royalties and milestones, net	<u>\$ 271,263</u>	<u>\$ 271,263</u>

Healthcare Royalty Partners

On January 6, 2018, we, through Antigenics, entered into the HCR Royalty Purchase Agreement with HCR, which closed on January 19, 2018. Pursuant to the terms of the HCR Royalty Purchase Agreement, we sold to HCR 100% of Antigenics' worldwide rights to receive royalties GSK on sales of GSK's vaccines containing our QS-21 STIMULON adjuvant. At closing, we received gross proceeds of \$190.0 million from HCR. As part of the transaction, we reimbursed HCR for transaction costs of \$100,000 and incurred approximately \$500,000 in transaction costs of our own, which are presented net of the liability in the consolidated balance sheet and will be amortized to interest expense over the estimated life of the HCR Royalty Purchase Agreement. Although we sold all of our rights to receive royalties on sales of GSK's vaccines containing QS-21, as a result of our obligation to HCR, we are required to account for the \$190.0 million in proceeds from this transaction as a liability on our consolidated balance sheet that will be relieved in proportion to the royalty payments from GSK to HCR over the estimated life of the HCR Royalty Purchase Agreement. The liability is classified between the current and non-current portion of liability related to sale of future royalties and milestones in the condensed consolidated balance sheets based on the estimated royalty payments to be received by HCR in the next 12 months from the financial statement reporting date.

In the years ended December 31, 2022, 2021 and 2020, we recognized \$45.3 million, \$44.4 million and \$46.5 million, respectively, of non-cash royalty revenue and we recorded \$62.7, \$64.4 million and \$59.7 million, respectively, of related non-cash interest expense related to the HCR Royalty Purchase Agreement.

As royalties are remitted to HCR from GSK, the balance of the recorded liability will be effectively repaid over the life of the HCR Royalty Purchase Agreement. To determine the amortization of the recorded liability, we are required to estimate the total amount of future royalty payments to be received by HCR. The sum of these royalty amounts less the \$190.0 million proceeds we received will be recorded as interest expense over the life of the HCR Royalty Purchase Agreement. Periodically, we assess the estimated royalty payments to be paid to HCR from GSK, and to the extent the amount or timing of the payments is materially different from our original estimates, we will prospectively adjust the amortization of the liability, and the related recognition of interest expense. Since the inception of the HCR Royalty Purchase Agreement our estimate of the effective annual interest rate over the life of the agreement increased to 27.8%, which results in a retrospective interest rate of 23.1%.

There are a number of factors that could materially affect the amount and timing of royalty payments from GSK, all of which are not within our control. Such factors include, but are not limited to, changing standards of care, the introduction of competing products, manufacturing or other delays, biosimilar competition, patent protection, adverse events that result in governmental health authority imposed restrictions on the use of the drug products, significant changes in foreign exchange rates, and other events or circumstances that could result in reduced royalty payments from GSK, all of which would result in a reduction of non-cash royalty revenues and the non-cash interest expense over the life of the HCR Royalty Purchase Agreement. Conversely, if sales of GSK's vaccines containing QS-21 are more than expected, the non-cash royalty revenues and the non-cash interest expense recorded by us would be greater over the life of the HCR Royalty Purchase Agreement.

Pursuant to the HCR Royalty Purchase Agreement, we were also entitled to receive up to \$40.4 million in milestone payments from HCR (through the royalty payments from GSK) based on sales of GSK's vaccines as follows: (i) \$15.1 million upon reaching \$2.0 billion last-twelve-months net sales any time prior to 2024 and (ii) \$25.3 million upon reaching \$2.75 billion last-twelve-months net sales any time prior to 2026. In the fourth quarter of 2019, the \$15.1 million milestone was achieved, as sales for the year ended December 31, 2019 exceeded \$2.0 billion. In the second quarter of 2022, the final milestone was achieved, as sales for the 12 months ended June 30, 2022 exceeded \$2.75 billion. As such, we recognized royalty sales milestone revenue of \$25.3 million during the year ended December 31, 2022. This milestone was paid through royalties received from GSK.

XOMA

On September 20, 2018, we, through our wholly-owned subsidiary, Agenus Royalty Fund, LLC, entered into a Royalty Purchase Agreement (the "XOMA Royalty Purchase Agreement") with XOMA (US) LLC ("XOMA"). Pursuant to the terms of the XOMA Royalty Purchase Agreement, XOMA paid us \$15.0 million at closing in exchange for the right to receive 33% of the future royalties and 10% of the future milestones that we are entitled to receive from Incyte Corporation ("Incyte") and Merck Sharpe & Dohme ("Merck") under our agreements with each party (see Note 15), net of certain of our obligations to a third party and excluding the \$5.0 million milestone from Incyte that we recognized in the quarter ended September 30, 2018. We retained 90% of the future milestones and 67% of the future royalties under our agreements with Incyte and Merck. Although we sold our rights to receive 33% of future royalties and 10% of future milestones, as a result of our significant continued involvement in the generation of the potential royalties and milestones, we are required to account for the full amount of these royalties and milestones as revenue when earned, and we recorded the \$15.0 million in proceeds from this transaction as a liability on our consolidated balance sheet. Under the terms of the XOMA Royalty Purchase Agreement, should the percentage of milestones and royalties ultimately received by XOMA fail to repay the amount received by us at closing we would have no further obligation to XOMA.

In the fourth quarter of 2020, we achieved a \$10.0 million milestone under the Merck agreement. As such, we recorded \$1.0 million in non-cash milestone revenue related to the XOMA Royalty Purchase Agreement for the year ended December 31, 2020 and reduced the XOMA liability by \$1.0 million.

(20) Fair Value Measurements

We measure our contingent purchase price consideration at fair value. The fair values of our PhosImmune and other contingent purchase price consideration of \$0.6 million and \$0.3 million, respectively, are based on significant inputs not observable in the market, which require them to be reported as Level 3 liabilities within the fair value hierarchy. The valuation of these liabilities use assumptions we believe would be made by a market participant and are mainly based on estimates from a Monte Carlo simulation of our market capitalization and share price, as well as other factors impacting the probability of triggering the milestone payments. Market capitalization and share price were evolved using a geometric Brownian motion, calculated daily for the life of the contingent purchase price considerations.

The significant unobservable inputs include the anticipated timelines to achieve the contingent purchase milestones and our estimated credit spread, the weighted average values of which (weighted based on the value of each contingent liability), as of December 31, 2022 and 2021, are shown in the table below.

	December 31, 2022	December 31, 2021
Period of time to achieve milestones (in years)	2.3	2.5
Credit spread	8.7 %	5.5 %

Liabilities measured at fair value are summarized below (in thousands):

Description	December 31, 2022	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Liabilities:				
Contingent purchase price consideration	874	—	—	874
Total	<u>\$ 874</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 874</u>

Description	December 31, 2021	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Liabilities:				
Contingent purchase price consideration	1,689	—	—	1,689
Total	<u>\$ 1,689</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 1,689</u>

The following table presents our liabilities measured at fair value using significant unobservable inputs (Level 3), as of December 31, 2022 (amounts in thousands):

Balance, December 31, 2021	\$ 1,689
Change in fair value of contingent purchase price consideration during the period	(815)
Balance, December 31, 2022	<u>\$ 874</u>

There were no changes in the valuation techniques during the period and there were no transfers into or out of Levels 1 and 2.

The fair value of our outstanding debt balance at December 31, 2022 and 2021 was \$13.2 million and \$13.6 million, respectively, based on the Level 2 valuation hierarchy of the fair value measurements standard using a present value methodology which was derived by evaluating the nature and terms of each note and considering the prevailing economic and market conditions at the balance sheet date. The principal amount of our outstanding debt balance at December 31, 2022 and 2021 was \$13.6 million and \$13.8, respectively.

(21) Contingencies

We may currently be, or may become, a party to legal proceedings. While we currently believe that the ultimate outcome of any of these proceedings will not have a material adverse effect on our financial position, results of operations, or liquidity, litigation is subject to inherent uncertainty. Furthermore, litigation consumes both cash and management attention.

(22) Benefit Plans

We sponsor a defined contribution 401(k) Savings Plan in the US and a defined contribution Group Personal Pension Plan in the UK (the “Plans”) for all eligible employees, as defined in the Plans. Participants may contribute a portion of their compensation, subject to a maximum annual amount, as established by the applicable taxing authority. Each participant is fully vested in his or her contributions and related earnings and losses. During the years ended December 31, 2022, 2021, and 2020 we made discretionary contributions to the Plans of \$1.2 million, \$1.1 million, and \$1.1 million, respectively. For the years ended December 31, 2022, 2021, and 2020, we expensed \$1.2 million, \$1.1 million, and \$1.1 million, respectively, related to the discretionary contribution to the Plans.

(23) Geographic Information

The following is geographical information regarding our revenues for the years ended December 31, 2022, 2021 and 2020 and our long-lived assets as of December 31, 2022 and 2021 (in thousands):

	2022	2021	2020
Revenue:			
United States	\$ 87,510	\$ 288,961	\$ 83,551
Rest of world	10,514	6,704	4,619
	<u>\$ 98,024</u>	<u>\$ 295,665</u>	<u>\$ 88,170</u>

In the table above, revenue by geographic region is allocated based on the domicile of our respective business operations.

	2022	2021
Long-lived Assets:		
United States	\$ 132,382	\$ 66,225
Rest of world	5,088	3,341
Total	<u>\$ 137,470</u>	<u>\$ 69,566</u>

In the table above, long-lived assets include “Property, plant and equipment, net” and “Other long-term assets” from the consolidated balance sheets, by the geographic location where the asset resides.

(24) Subsequent Events

At the Market Offerings

During the period of January 1, 2023 through March 10, 2023, we sold approximately 26.3 million shares of our common stock under the Sales Agreement, totaling net proceeds of approximately \$48.6 million.

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

Not applicable.

Item 9A. Controls and Procedures**Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures**

Under the supervision and with the participation of our management, including our Chief Executive Officer and Principal Financial Officer, we conducted an evaluation of the effectiveness of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) promulgated under the Exchange Act. Based on this evaluation, our Chief Executive Officer and our Principal Financial Officer concluded that our disclosure controls and procedures were functioning effectively as of the end of the period covered by this Annual Report on Form 10-K to provide reasonable assurance that the Company can meet its disclosure obligations.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of our management, including our Chief Executive Officer and Principal Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control—Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the framework, our management concluded that our internal control over financial reporting was effective as of December 31, 2022.

KPMG LLP, our independent registered public accounting firm, has issued their report, included herein, on the effectiveness of our internal control over financial reporting.

Changes in Internal Control Over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the fourth quarter 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Agenus Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Agenus Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. 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 (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of operations and comprehensive loss, convertible preferred stock and stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, the consolidated financial statements), and our report dated March 16, 2023 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ KPMG LLP

Boston, Massachusetts
March 16, 2023

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. *Directors, Executive Officers and Corporate Governance*

The information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2023 Annual Meeting of Stockholders, which we intend to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year pursuant to General Instruction G(3) of Form 10-K.

Item 11. *Executive Compensation*

The information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2023 Annual Meeting of Stockholders, which we intend to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year pursuant to General Instruction G(3) of Form 10-K.

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

The information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2023 Annual Meeting of Stockholders, which we intend to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year pursuant to General Instruction G(3) of Form 10-K.

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

The information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2023 Annual Meeting of Stockholders, which we intend to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year pursuant to General Instruction G(3) of Form 10-K.

Item 14. *Principal Accounting Fees and Services*

Our independent registered public accounting firm is KPMG LLP, Boston, Massachusetts, Auditor Firm ID: 185.

All other information required by this Item is incorporated herein by reference to the information that will be contained in our proxy statement related to the 2023 Annual Meeting of Stockholders, which we intend to file with the Securities and Exchange Commission within 120 days of the end of our fiscal year pursuant to General Instruction G(3) of Form 10-K.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) 1. Consolidated Financial Statements

The consolidated financial statements are listed under Item 8 of this Annual Report on Form 10-K.

2. Financial Statement Schedules

The financial statement schedules required under this Item and Item 8 are omitted because they are not applicable, or the required information is shown in the consolidated financial statements or the footnotes thereto.

3. Exhibits

The exhibits are listed below under Part IV Item 15(b).

(b) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
3.1	<u>Amended and Restated Certificate of Incorporation of Antigenics Inc. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on June 10, 2002 and incorporated herein by reference.</u>
3.1.1	<u>Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Antigenics Inc. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on June 11, 2007 and incorporated herein by reference.</u>
3.1.2	<u>Certificate of Ownership and Merger changing the name of the corporation to Agenus Inc. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on January 6, 2011 and incorporated herein by reference.</u>
3.1.3	<u>Certificate of Second Amendment to the Amended and Restated Certificate of Incorporation of Agenus Inc. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on September 30, 2011 and incorporated herein by reference.</u>
3.1.4	<u>Certificate of Third Amendment to the Amended and Restated Certificate of Incorporation of Agenus Inc. Filed as Exhibit 3.1.4 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2012 and incorporated herein by reference.</u>
3.1.5	<u>Certificate of Fourth Amendment to the Amended and Restated Certificate of Incorporation of Agenus Inc. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on April 25, 2014 and incorporated herein by reference.</u>
3.1.6	<u>Certificate of Fifth Amendment to the Amended and Restated Certificate of Incorporation of Agenus Inc. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on June 16, 2016 and incorporated herein by reference.</u>
3.1.7	<u>Certificate of Sixth Amendment to the Amended and Restated Certificate of Incorporation of Agenus Inc. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on June 24, 2019 and incorporated herein by reference.</u>
3.1.8	<u>Certificate of Seventh Amendment to the Amended and Restated Certificate of Incorporation of Agenus Inc. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on August 5, 2022 and incorporated herein by reference.</u>
3.2	<u>Sixth Amended and Restated By-laws of Agenus Inc. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on March 25, 2022 and incorporated herein by reference.</u>
3.3	<u>Certificate of Designations, Preferences and Rights of the Series A-1 Convertible Preferred Stock of Agenus Inc. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on February 5, 2013 and incorporated herein by reference.</u>
3.4	<u>Form of Certificate of Designation of Preferences, Rights and Limitations of Series C-1 Convertible Preferred Stock. Filed as Exhibit 3.1 to our Current Report on Form 8-K (File No. 0-29089) filed on October 11, 2018 and incorporated herein by reference.</u>

Exhibit No.	Description
4.1	Form of Common Stock Certificate. Filed as Exhibit 4.1 to our Current Report on Form 8-K (File No. 0-29089) filed on January 6, 2011 and incorporated herein by reference.
4.2	Securities Exchange Agreement dated as of February 4, 2013 by and between Agenus Inc., and Mr. Brad Kelley. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on February 5, 2013 and incorporated herein by reference.
4.3	Amended and Restated Note Purchase Agreement dated as of February 20, 2015, as amended, by and between Agenus Inc. and the Purchasers listed on Schedule 1.1 thereto. Filed as Exhibit 4.2 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2015 and incorporated herein by reference.
4.4	Form of Senior Subordinated Note under the Amended and Restated Note Purchase Agreement dated as of February 20, 2015, as amended, by and between Agenus Inc. and the Purchasers listed on Schedule 1.1 thereto. Filed as Exhibit 4.3 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2015 and incorporated herein by reference.
4.5	Form of 2022 A Warrant under the Amended and Restated Note Purchase Agreement dated as of February 20, 2015, as amended, by and between Agenus Inc. and the Purchasers listed on Schedule 1.1 thereto. Filed as Exhibit 4.1 to our Current Report on Form 8-K (File No. 0-29089) on December 2, 2022 and incorporated herein by reference.
4.6	Form of 2022 B Warrant under the Amended and Restated Note Purchase Agreement dated as of February 20, 2015, as amended, by and between Agenus Inc. and the Purchasers listed on Schedule 1.1 thereto. Filed as Exhibit 4.2 to our Current Report on Form 8-K (File No. 0-29089) on December 2, 2022 and incorporated herein by reference.
4.7	Amendment to Notes and Warrants dated as of March 15, 2017 by and among Agenus Inc. and the Investors listed therein. Filed as Exhibit 4.27 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2016 and incorporated herein by reference.
4.8	Amendment to Notes and Warrants dated as of February 18, 2020 by and among Agenus Inc. and the Investors listed therein. Filed as Exhibit 4.7 to our Annual Report on form 10-K (File No. 0-29089) for the year ended December 31, 2019 and incorporated herein by reference.
4.9	Amendment to Notes, Termination of Warrants and Sale of New Warrants dated as of November 30, 2022 by and among Agenus Inc. and the Investors listed therein. Filed herewith.
4.10	Form of Indenture. Filed as Exhibit 4.1 to our Registration Statement on Form S-3 (File No. 333-221008) and incorporated herein by reference.
4.11	Royalty Purchase Agreement dated January 6, 2018, by and among Antigenics LLC, Healthcare Royalty Partners III, L.P. and certain of its affiliates. Filed as Exhibit 4.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2018 and incorporated herein by reference.
4.11.1	Amendment No. 1 to Royalty Purchase Agreement, dated June 22, 2021, by and among Antigenics LLC, Healthcare Royalty Partners III, L.P. and certain of its affiliates. Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2021 and incorporated herein by reference.
4.12	Royalty Purchase Agreement dated September 20, 2018, by and among Agenus Inc., Agenus Royalty Fund, LLC and XOMA (US) LLC. Filed as Exhibit 4.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended September 30, 2018 and incorporated herein by reference.
4.13	Description of Securities. Filed as Exhibit 4.12 to our Annual Report on form 10-K (File No. 0-29089) for the year ended December 31, 2019 and incorporated herein by reference.
Employment Agreements and Compensation Plans	
10.1*	Agenus Inc. Amended and Restated 2009 Equity Incentive Plan. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on June 16, 2016 and incorporated herein by reference.
10.1.1*	Form of Restricted Stock Award Agreement for the Agenus Inc. Amended and Restated 2009 Equity Incentive Plan. Filed as Exhibit 10.2 to our Current Report on Form 8-K (File No. 0-29089) filed on June 15, 2009 and incorporated herein by reference.

Exhibit No.	Description
10.1.2*	Form of Restricted Stock Unit Agreement for the Agenus Inc. Amended and Restated 2009 Equity Incentive Plan. Filed as Exhibit 10.2 to our Current Report on Form 8-K (File No. 0-29089) filed on June 30, 2015 and incorporated herein by reference.
10.1.3*	Form of Stock Option Agreement for the Agenus Inc. Amended and Restated 2009 Equity Incentive Plan. Filed as Exhibit 10.3 to our Current Report on Form 8-K (File No. 0-29089) filed on June 15, 2009 and incorporated herein by reference.
10.2	Agenus Inc. Amended and Restated Directors' Deferred Compensation Plan. Filed as Appendix B to our Definitive Proxy Statement on Schedule 14A filed on April 26, 2018 and incorporated herein by reference.
10.2.1	Amendment to Agenus Amended and Restated Directors' Deferred Compensation Plan. Filed as Appendix A to our Definitive Proxy Statement on Schedule 14A filed on April 28, 2020 and incorporated herein by reference.
10.2.2	Amendment to Agenus Amended and Restated Directors' Deferred Compensation Plan. Filed as Appendix A to our Definitive Proxy Statement on Schedule 14A filed on April 29, 2022 and incorporated herein by reference.
10.3*	Amended and Restated Executive Change-in-Control Plan applicable to Christine M. Klaskin. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on November 3, 2010 and incorporated herein by reference.
10.3.1*	Modification of Rights in the Event of a Change of Control, dated as of June 14, 2012, by and between Agenus Inc. and Christine Klaskin. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2012 and incorporated herein by reference.
10.4*	2004 Executive Incentive Plan, as amended. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on January 27, 2011 and incorporated herein by reference.
10.4.1*	Agenus Inc. 2016 Executive Incentive Plan. Filed as Exhibit 10.2 to our Current Report on Form 8-K (File No. 0-29089) filed on June 16, 2016 and incorporated herein by reference.
10.5*	Employment Agreement dated December 1, 2005 between Agenus Inc. and Garo Armen. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on December 7, 2005 and incorporated herein by reference.
10.5.1*	First Amendment to Employment Agreement dated July 2, 2009 between Agenus Inc. and Garo Armen. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended September 30, 2009 and incorporated herein by reference.
10.5.2*	Second Amendment to Employment Agreement dated December 15, 2010 between Agenus Inc. and Garo Armen. Filed as Exhibit 10.12.2 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2010 and incorporated herein by reference.
10.6*	Agenus Inc. 2015 Inducement Equity Plan. Filed as Exhibit 4.14 to our Registration Statement on Form S-8 (File No. 333-209074) filed on January 21, 2016 and incorporated herein by reference.
10.6.1*	Form of Stock Option Agreement for the Agenus Inc. 2015 Inducement Equity Plan. Filed as Exhibit 4.15 to our Registration Statement on Form S-8 (File No. 333-209074) filed on January 21, 2016 and incorporated herein by reference.
10.6.2*	Form of Restricted Stock Award Agreement for the Agenus Inc. 2015 Inducement Equity Plan. Filed as Exhibit 4.16 to our Registration Statement on Form S-8 (File No. 333-209074) filed on January 21, 2016 and incorporated herein by reference.
10.6.3*	Form of Restricted Stock Unit Agreement for the Agenus Inc. 2015 Inducement Equity Plan. Filed as Exhibit 4.17 to our Registration Statement on Form S-8 (File No. 333-209074) filed on January 21, 2016 and incorporated herein by reference.
10.7	Agenus Inc. 2019 Employee Stock Purchase Plan. Filed as Exhibit 4.11 to our Registration Statement on Form S-8 (File No. 333-233100) filed on August 7, 2019 and incorporated herein by reference.
10.7.1	Amendment to the Agenus Inc. 2019 Employee Stock Purchase Plan. Filed as Appendix B to our Definitive Proxy Statement on Schedule 14A filed on April 30, 2021 and incorporated herein by reference.
10.8*	Agenus Inc. Amended and Restated 2019 Equity Incentive Plan. Filed as Appendix B to our Definitive Proxy Statement on Schedule 14A filed on April 29, 2022 and incorporated herein by reference.

Exhibit No.	Description
10.8.1*	Form of Incentive Stock Option Agreement for the Agenus Inc. 2019 Equity Incentive Plan. Filed as Exhibit 10.10.1 to our Annual Report on form 10-K (File No. 0-29089) for the year ended December 31, 2019 and incorporated herein by reference.
10.8.2*	Form of Non-Qualified Stock Option Agreement for the Agenus Inc. 2019 Equity Incentive Plan. Filed as Exhibit 10.10.2 to our Annual Report on form 10-K (File No. 0-29089) for the year ended December 31, 2019 and incorporated herein by reference.
10.8.3*	Form of Restricted Stock Unit Award Agreement for the Agenus Inc. 2019 Equity Incentive Plan. Filed as Exhibit 10.10.3 to our Annual Report on form 10-K (File No. 0-29089) for the year ended December 31, 2019 and incorporated herein by reference.
10.9*	Consulting Agreement dated January 1, 2020 between Agenus Inc. and Brian Corvese. Filed as Exhibit 4.2 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2020 and incorporated herein by reference.
10.9.1*	Amendment to Consulting Agreement between Agenus Inc. and Brian Corvese, dated January 1, 2022. Filed as Exhibit 10.11.1 to our Annual Report on form 10-K (File No. 0-29089) for the year ended December 31, 2021 and incorporated herein by reference.
10.10*	Executive Employment Agreement dated October 27, 2020 between Agenus Inc. and Steven O'Day. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) filed on May 10, 2022 and incorporated herein by reference.

License and Collaboration Agreements

10.11(1)	License Agreement by and between Agenus Inc. and GlaxoSmithKline Biologicals SA dated July 6, 2006. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2006 and incorporated herein by reference.
10.12(1)	Amended and Restated Manufacturing Technology Transfer and Supply Agreement by and between Agenus Inc. and GlaxoSmithKline Biologicals SA dated January 19, 2009. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2009 and incorporated herein by reference.
10.13(1)	First Right to Negotiate and Amendment Agreement between Agenus Inc., Antigenics LLC and GlaxoSmithKline Biologicals SA, dated March 2, 2012. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2012 and incorporated herein by reference.
10.14(1)	License Agreement dated as of December 5, 2014 by and between 4-Antibody AG, a limited liability company organized under the laws of Switzerland (and wholly-owned subsidiary of Agenus Inc.) and Ludwig Institute for Cancer Research Ltd. Filed as Exhibit 10.21 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2014 and incorporated herein by reference.
10.15.1(1)	License, Development and Commercialization Agreement dated as of January 9, 2015 by and among Agenus Inc., 4-Antibody AG, a limited liability company organized under the laws of Switzerland (and wholly-owned subsidiary of Agenus Inc.), Incyte Corporation and Incyte Europe Sarl, a Swiss limited liability company (and wholly-owned subsidiary of Incyte Corporation). Filed as Exhibit 10.22 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2014 and incorporated herein by reference.
10.15.2(1)	First Amendment to License, Development and Commercialization Agreement dated as of February 14, 2017 by and among Agenus Inc., Agenus Switzerland Inc. (f/k/a 4-Antibody AG) and Incyte Europe Sarl. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2017 and incorporated herein by reference.
10.16(1)	License Agreement dated March 19, 2013, as amended, by and between the University of Virginia Patent Foundation d/b/a University of Virginia Licensing and Ventures Group and Agenus Inc. (as successor by merger to PhosImmune Inc.). Filed as Exhibit 10.24 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2015 and incorporated herein by reference.
10.17(1)	License Agreement dated as of January 25, 2016 by and among Agenus Inc., 4-Antibody AG, a limited liability company organized under the laws of Switzerland (and wholly-owned subsidiary of Agenus Inc.), and Ludwig Institute for Cancer Research Ltd. Filed as Exhibit 10.25 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2015 and incorporated herein by reference.

Exhibit No.	Description
10.18(1)	Development and Manufacturing Services Agreement dated April 14, 2017 by and between Agenus Inc. and CMC ICOS Biologics, Inc. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2017 and incorporated herein by reference.
10.19(1)	License Agreement dated December 20, 2018, by and between Agenus Inc. and Gilead Sciences, Inc. Filed as Exhibit 10.25 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2018 and incorporated herein by reference.
10.20(1)	Option and License Agreement (AGEN1223) dated December 20, 2018, by and between Agenus Inc. and Gilead Sciences, Inc. Filed as Exhibit 10.26 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2018 and incorporated herein by reference.
10.21(1)	Option and License Agreement (AGEN2373) dated December 20, 2018, by and between Agenus Inc. and Gilead Sciences, Inc. Filed as Exhibit 10.27 to our Annual Report on Form 10-K (File No. 0-29089) for the year ended December 31, 2018 and incorporated herein by reference.
10.22(1)	License and Collaboration Agreement, dated as of June 20, 2020, by and between Agenus Inc. and Betta Pharmaceuticals Co., Ltd. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2020 and incorporated herein by reference.
10.23(1)	License, Development and Commercialization Agreement, dated May 17, 2021, by and among Agenus Inc. and Bristol Myers Squibb Company. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2021 and incorporated herein by reference.

Real Estate Leases

10.24	Lease of Premises at 3 Forbes Road, Lexington, Massachusetts dated as of December 6, 2002 from BHX, LLC, as Trustee of 3 Forbes Realty Trust, to Agenus Inc. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on January 8, 2003 and incorporated herein by reference.
10.24.1	First Amendment of Lease dated as of August 15, 2003 from BHX, LLC, as trustee of 3 Forbes Road Realty, to Agenus Inc. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2004 and incorporated herein by reference.
10.24.2	Second Amendment of Lease dated as of March 7, 2007 from BHX, LLC as trustee of 3 Forbes Road Realty, to Agenus Inc. Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2007 and incorporated herein by reference.
10.24.3	Third Amendment to Lease dated April 23, 2008 between TBCI, LLC, as successor to BHX, LLC, as Trustee of 3 Forbes Road Realty Trust, and Agenus Inc. Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended June 30, 2008 and incorporated herein by reference.
10.24.4	Fourth Amendment to Lease dated September 30, 2008 between TBCI, LLC, as successor to BHX, LLC, as Trustee of 3 Forbes Road Realty Trust, and Agenus Inc. Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended September 30, 2008 and incorporated herein by reference.
10.24.5	Fifth Amendment to Lease dated April 11, 2011 between TBCI, LLC, as successor to BHX, LLC, as Trustee of 3 Forbes Road Realty Trust, and Agenus Inc. Filed as Exhibit 10.3 to our Quarterly Report on Form 10-Q (File No. 0-29089) for the quarter ended March 31, 2011 and incorporated herein by reference.
10.25	Office Lease by and between Bay Center Investor LLC and Agenus Inc. dated November 25, 2020. Filed as Exhibit 10.1 to our Current Report on Form 8-K (File No. 0-29089) filed on November 25, 2020 and incorporated herein by reference.

Sales Agreement

10.26	At Market Issuance Sales Agreement dated July 22, 2020 by and between Agenus Inc. and B. Riley FBR, Inc. Filed as Exhibit 1.2 to our Registration Statement on Form S-3ASR (File No. 333-240006) on July 22, 2020 and incorporated herein by reference.
21.1	Subsidiaries of Agenus Inc. Filed herewith.
23.1	Consent of KPMG LLP, independent registered public accounting firm. Filed herewith.

Exhibit No.	Description
31.1	Certification of Chief Executive Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as amended. Filed herewith.
31.2	Certification of Principal Financial Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as amended. Filed herewith.
32.1	Certification of Chief Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. Submitted herewith.
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	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Indicates a management contract or compensatory plan.

- (1) Certain confidential material contained in the document has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act or Rule 24b-2 of the Securities Exchange Act.

Item 16. Form 10-K Summary

None.

SIGNATURES

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

AGENUS INC.

By: /s/ GARO H. ARMEN, PH.D.

Garo H. Armen, Ph.D.
*Chief Executive Officer and
Chairman of the Board*

Dated: March 16, 2023

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u> /s/ GARO H. ARMEN, PH.D.</u> Garo H. Armen, Ph.D.	Chief Executive Officer and Chairman of the Board of Directors (Principal Executive Officer)	March 16, 2023
<u> /s/ CHRISTINE M. KLASKIN</u> Christine M. Klaskin	Vice President Finance (Principal Financial and Accounting Officer)	March 16, 2023
<u> /s/ BRIAN CORVESE</u> Brian Corvese	Director	March 16, 2023
<u> /s/ SUSAN HIRSCH</u> Susan Hirsch	Director	March 16, 2023
<u> /s/ ALLISON JEYNES-ELLIS</u> Allison Jeynes-Ellis	Director	March 16, 2023
<u> /s/ ULF WIINBERG</u> Ulf Wiinberg	Director	March 16, 2023
<u> /s/ TIMOTHY R. WRIGHT</u> Timothy R. Wright	Director	March 16, 2023

**AMENDMENT TO NOTES, TERMINATION OF WARRANTS
AND SALE OF NEW WARRANTS**

This Amendment to Notes, Termination of Warrants and Sale of New Warrants (this “**Amendment**”) is entered into this 30th day of November 2022 by and between (a) Agenus Inc., a Delaware corporation, having an address at 3 Forbes Road, Lexington, MA 02421 (the “**Borrower**”), and (b) Mark Berg and Nicole Berg, Nicky V LLC and MSB Research Inc. (collectively, the “**Signing Purchasers**”).

WITNESSETH

WHEREAS, the Borrower and the Required Purchases (as defined below) are parties to that certain Amended and Restated Note Purchase Agreement dated February 20, 2015, as amended (the “**2015 Purchase Agreement**”), pursuant to which the Borrower issued to the Purchasers, among other things, 8% senior subordinated notes that mature on February 20, 2022 (the “**2015 Notes**”), warrants to purchase an aggregate of 1,400,000 shares of Borrower common stock at a price of \$5.10 per share that expire on February 20, 2023 (the “**2015 Warrants**”) and warrants to purchase an aggregate of 650,000 shares of Borrower common stock at a price of \$4.48 per share that expire on February 18, 2025 (the “**2020 Warrants**”);

WHEREAS, the parties now wish to (i) extend the term of the 2015 Notes by two years from February 20, 2023 to February 20, 2025, (ii) cancel the 2015 Warrants and the 2020 Warrants and (ii) issue new Warrants to the Purchasers as set forth herein; and

WHEREAS, Section 5.13(a) of the 2015 Purchase Agreement provides that the 2015 Notes, 2015 Warrants and 2020 Warrants may be amended or terminated by the Purchasers of Notes (as defined therein) representing at least a majority of the aggregate principal amount outstanding under all of the 2015 Notes (the “**Required Purchasers**”), and the undersigned Signing Purchasers constitute the Required Purchasers.

NOW, THEREFORE, the parties hereby agree as follows:

1. Defined Terms. Terms used, but not defined here, shall have the meaning assigned such terms in the 2015 Purchase Agreement.
 2. Termination of 2015 Warrants and Termination of 2020 Warrants. The 2015 Warrants and the 2020 Warrants are hereby terminated in their entirety.
 3. Amendment to 2015 Notes. The maturity date for each of the 2015 Notes is hereby extended by two years from February 20, 2023 to February 20, 2025.
 4. No other Amendments. The parties acknowledge and agree that, except as set forth in this Amendment, the 2015 Notes shall remain in full force and effect.
-

5. New Warrants. In consideration of the amendments hereunder, the Borrower shall issue to the Purchasers warrants to purchase that number of shares of Common Stock of the Borrower (collectively, the “**2022 Warrants**”) in accordance with such Purchaser’s individual allocation set forth opposite such Purchaser’s name on Schedule 1 under the headings “Allocation of 2022 A Warrants” and “Allocation of 2022 B Warrants” which warrants shall be in the form attached hereto as Exhibits IA and IB. The 2022 Warrants are deemed to be issued by, and governed in accordance with, the Purchase Agreement as if they are Warrants issued thereunder.

6. Governing Law. This Amendment shall be governed by and construed in accordance with the laws of the State of New York irrespective of any conflicts of law principles thereof.

7. Counterparts. This Amendment may be executed in counterparts, which, when taken together, shall constitute one agreement. If any signature is delivered by facsimile transmission or by e-mail delivery of a “.pdf” format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or “.pdf” signature page were an original thereof.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed by their respective authorized officers as of the day and year first above written.

BORROWER:

AGENUS INC.

By: /s/ Garo H. Armen

Name: Garo H. Armen

Title: Chairman and CEO

PURCHASERS:

/s/ Mark Berg /s/ Nicole Berg

Mark Berg and Nicole Berg

NICKY V LLC

By: /s/ Nicole Berg

Name: Nicole Berg

Title: Owner

MSB RESEARCH INC.

By: /s/ Mark Berg

Name: Mark Berg

Title: President

SUBSIDIARIES OF AGENUS INC.

Antigenics LLC., a Delaware limited liability company and a wholly-owned subsidiary of Agenus Inc.

Agenus Royalty Fund, LLC, a Delaware limited liability company and a wholly-owned subsidiary of Agenus Inc.

Agenus Switzerland Inc., a joint stock company organized under the laws of Switzerland formerly known as 4-Antibody AG, and a wholly-owned subsidiary of Agenus Inc.

Agenus West, LLC, a Delaware limited liability company and a wholly-owned subsidiary of Agenus Inc.

Agenus UK Limited, a private limited company organized under the laws of England and Wales and a wholly-owned subsidiary of Agenus Inc.

SaponiQx, Inc., a Delaware corporation and a majority-owned subsidiary of Agenus Inc.

MiNK Therapeutics, Inc., a Delaware corporation and a majority-owned subsidiary of Agenus Inc.

AgenTus Therapeutics Limited, a private limited company organized under the laws of England and Wales and a wholly-owned subsidiary of MiNK Therapeutics, Inc.

AgenTus Therapeutics SA, a company organized under the laws of Belgium and a wholly-owned subsidiary of AgenTus Therapeutics, Inc.

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Agenus Inc.:

We consent to the incorporation by reference in the registration statements (Nos. 333-40440, 333-40442, 333-50434, 333-69580, 333-106072, 333-115984, 333-143807, 333-143808, 333-151745, 333-160084, 333-160087, 333-160088, 333-176609, 333-183066, 333-183067, 333-189926, 333-195851, 333-209074, 333-212889, 333-228271, 333-233097, 333-233100 and 333-266790) on Form S-8 and (Nos. 333-163221, 333-189534, 333-195852, 333-203807, 333-206513, 333-208135, 333-208890, 333-209749, 333-209941, 333-215640, 333-221465, 333-222670, 333-228273, 333-234333, 333-240006, 333-261032 and 333-268988) on Form S-3 of Agenus Inc. of our reports dated March 16, 2023, with respect to the consolidated financial statements of Agenus Inc. and the effectiveness of internal control over financial reporting.

/s/ KPMG LLP

Boston, Massachusetts
March 16, 2023

Certification Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as amended

I, Garo H. Armen, certify that:

1. I have reviewed this Annual Report on Form 10-K of Agenus Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;
4. The Registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:
 - a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles;
 - c. evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and
5. The Registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent function):
 - a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and
 - b. any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal control over financial reporting.

Date: March 16, 2023

/s/ GARO H. ARMEN, PH.D.

Garo H. Armen, Ph.D.
Chief Executive Officer and Principal Executive Officer

Certification Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as amended

I, Christine M. Klaskin, certify that:

1. I have reviewed this Annual Report on Form 10-K of Agenus Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;
4. The Registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:
 - a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles;
 - c. evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and
5. The Registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent function):
 - a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and
 - b. any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal control over financial reporting.

Date: March 16, 2023

/s/ CHRISTINE M. KLASKIN

Christine M. Klaskin
VP, Finance and Principal Financial Officer

Certification
Pursuant to 18 U.S.C. Section 1350,
As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the Annual Report on Form 10-K of Agenus Inc. (the "Company") for the year ended December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned to his/her knowledge hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

- (i) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (ii) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ GARO H. ARMEN, PH.D.

Garo H. Armen, Ph.D.
Chief Executive Officer and Principal Executive Officer

/s/ CHRISTINE M. KLASKIN

Christine M. Klaskin
VP, Finance and Principal Financial Officer

Date: March 16, 2023

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

The foregoing certification is being furnished to the Securities and Exchange Commission as an exhibit to the Annual Report on Form 10-K for the year ended December 31, 2022 and should not be considered filed as part of the Annual Report on Form 10-K.
