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

Form 10-K

(Mark One)

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

For the fiscal year ended December 31, 2024

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

For the transaction period from _____ to _____

Commission file number: 001-36860

IOVANCE BIOTHERAPEUTICS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**75-3254381**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
825 Industrial Road, Suite 100, San Carlos, California	**94070**
(Address of Principal Executive Offices)	(Zip Code)

(650) 260-7120
(Registrant's Telephone Number, Including Area Code)

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

Title of Each Class	**Trading Symbol(s)**	**Name Of Each Exchange On Which Registered**
Common Stock, $ 0.000041666 Par Value per Share	IOVA	The Nasdaq Global Market

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

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 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 and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

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

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

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

If the 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 ☒

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

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common stock, par value $0.000041666 per value	IOVA	The Nasdaq Stock Market, LLC

The aggregate market value of the registrant's common stock held by non-affiliates on June 30, 2024, the last business day of the registrant's most recently completed second fiscal quarter, was approximately $2.1 billion. Shares of common stock held by directors and executive officers and any ten percent or greater stockholders and their respective affiliates have been excluded from this calculation, because such stockholders may be deemed to be "affiliates" of the Registrant. This is not necessarily determinative of affiliate status of other purposes. As of February 21, 2025, there were 327,876,694 shares of the registrant's common stock outstanding.

Documents Incorporated By Reference

Portions of registrant's proxy statement relating to registrant's 2024 Annual Meeting of Stockholders (the "Proxy Statement") to be filed with the Securities and Exchange Commission pursuant to Regulation 14A, not later than 120 days after the close of the registrant's fiscal year, are incorporated by reference in Part III of this Annual Report on Form 10-K. Except with respect to information specifically incorporated by reference in this Annual Report on Form 10-K, the Proxy Statement is not deemed to be filed as part of this Annual Report on Form 10-K.

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Forward-Looking Statements and Market Data

This Annual Report on Form 10-K contains forward-looking statements that are based on management's beliefs and assumptions and on information currently available to management. All statements other than statements of historical facts contained in this report are forward-looking statements. In some cases, you can identify forward-looking statements by the following words: "may," "will," "might," "could," "would," "should," "expect," "intend," "plan," "anticipate," "believe," "estimate," "predict," "project," "aim," "potential," "continue," "ongoing," "goal," "forecast," "guidance," "outlook," or the negative of these terms or other similar expressions, although not all forward-looking statements contain these words.

These statements involve risks, uncertainties, and other factors that may cause actual results, levels of activity, performance, or achievements to be materially different from the information expressed or implied by these forward-looking statements. Although we believe that we have a reasonable basis for each forward-looking statement contained in this report, we caution you that these statements are based on a combination of facts and factors currently known by us and our projections of the future, about which we cannot be certain. Forward-looking statements in this Annual Report on Form 10-K include, but are not limited to, statements about:

- the success, cost, enrollment, and timing of our clinical trials;
- the success, cost, and timing of our product development activities;
- the ability of us or our third-party contract manufacturers to continue to manufacture tumor infiltrating lymphocytes, or TIL, in accordance with our selected process;
- our ability to design, construct, and staff our own manufacturing facility on a timely basis and within the estimated expenses;
- the success of competing therapies that are or may become available;
- regulatory developments in the United States of America, or U.S., and foreign countries;
- the timing of and our ability to obtain and maintain U.S. Food and Drug Administration, or the FDA, European Commission, or other regulatory authority approval of, or other action with respect to, our products and/or product candidates;
- our ability to attract and retain key scientific or management personnel;
- the accuracy of our estimates regarding expenses, future revenue, capital requirements, and needs for additional financing;
- our ability to obtain funding for our operations, including funding necessary to complete further development of our product candidates and commercialization of our products;
- our ability to successfully commercialize Amtagvi® (lifileucel) and Proleukin® (aldesleukin), and any other products and/or product candidates for which we obtain or have obtained FDA or other regulatory approvals, including by the European Commission in the European Union, or the EU;
- the ability and willingness of our third-party research institution collaborators to continue research and development activities relating to our product candidates;
- the potential of our other research and development and strategic collaborations;
- our expectations regarding our ability to obtain and maintain intellectual property protection for our manufacturing methods and products and/or product candidates;
- our plans to research, develop, and commercialize our products and/or product candidates;
- the size and growth potential of the markets for our products and/or product candidates, and our ability to serve those markets;
- our ability to contract with third-party suppliers and manufacturers and their ability to perform adequately;
- fluctuations in the trading price of our common stock; and
- our use of cash and other resources.

Actual results may differ from those set forth in this Annual Report on Form 10-K due to the risks and uncertainties inherent in our business, including those provided in the foregoing list of forward-looking statements and also including, without limitation: the FDA may not agree with our interpretation of the results of our clinical trials; later developments with the FDA that may be inconsistent with already completed FDA meetings; the preliminary clinical results, including efficacy and safety results, from ongoing Phase 2 and Phase 3 clinical trials may not be reflected in the final analyses of these clinical trials including new cohorts within these clinical trials; the results obtained in our ongoing clinical trials, such as the studies and clinical trials referred to in this Annual Report on Form 10-K, may not be indicative of results obtained in future clinical trials or supportive of product approval; regulatory authorities may potentially delay the timing of FDA or other regulatory authority approval of, or other action with respect to, our product candidates, specifically, our description of FDA interactions are subject to the FDA's interpretation, as well as the FDA's authority to request new or additional information; we may not be able to obtain or maintain FDA or other regulatory authority approval of our product candidates; our ability to address FDA or other regulatory authority requirements relating to our clinical programs and registrational plans, such requirements including, but not limited to, clinical and safety requirements as well as manufacturing and control requirements; risks related to our accelerated FDA review designations; our ability to obtain and maintain intellectual property rights relating to our product pipeline; and the acceptance by the market of our product candidates and their potential reimbursement by payors, if approved.

We caution you that the risks, uncertainties, and other factors referenced above may not contain all the risks, uncertainties, and other factors that are important to you. In addition, we cannot guarantee future results, level of activity, performance, or achievements. Any forward-looking statement made by us in this Annual Report on Form 10-K speaks only as of the date of this Annual Report on Form 10-K or as of the date on which it is made. Except as required by law, we undertake no obligation to publicly update any forward-looking statements, whether because of new information, future events or otherwise, after the date of this Annual Report on Form 10-K.

Unless the context requires otherwise, in this report the terms "Iovance," the "Company," "we," "us," and "our" refer to Iovance Biotherapeutics, Inc.

PART I

Item 1. Business

Overview

We are a commercial-stage biopharmaceutical company pioneering a transformational approach to treating cancer by harnessing the human immune system's ability to recognize and destroy diverse cancer cells using therapies personalized for each patient. Our mission is to be the global leader in innovating, developing, and delivering tumor infiltrating lymphocyte, or TIL, cell therapies for patients with solid tumor cancers. We are executing the U.S. launch of Amtagvi® (lifileucel), the first product within our autologous TIL cell therapy platform, while also marketing Proleukin® (aldesleukin), an interleukin-2, or IL-2, product used in the Amtagvi® treatment regimen and in other applications. Amtagvi® is the first and the only one-time, individualized T cell therapy to receive FDA approval for a solid tumor cancer. Amtagvi® is a tumor-derived autologous T cell immunotherapy indicated for the treatment of adult patients with unresectable or metastatic melanoma previously treated with a PD-1 blocking antibody, and if BRAF V600 mutation positive, a BRAF inhibitor with or without a MEK inhibitor. This indication was approved in February 2024 under accelerated approval based on an endpoint of overall response rate, or ORR. Continued approval for this indication may be contingent upon verification and description of clinical benefit in future confirmatory trials. Amtagvi® and Proleukin® are part of a treatment regimen that also includes lymphodepletion.

Beyond the U.S., we plan to launch Amtagvi® into additional markets with a high prevalence of advanced melanoma, including the European Union, or EU, United Kingdom, or UK, Canada, Switzerland, and Australia. In June 2024, we submitted a centralized marketing authorization application, or MAA, to the European Medicines Agency, or the EMA, for lifileucel. In August 2024, the MAA was validated and accepted for review by the EMA. In October 2024, an MAA was submitted to the Medicines and Healthcare products Regulatory Agency in the UK. A new drug submission, or NDS, was deemed eligible for Notice of Compliance with Conditions, or NOC/c, by Health Canada and submitted in December 2024 and then accepted in January 2025. The NOC/c policy includes a prioritized 200-day review process for potential NDS approval in mid-2025. If approved, lifileucel is expected to be the first and only approved therapy in this treatment setting in these markets. Across the U.S. and other targeted global markets, Amtagvi® has the potential to address more than 20,000 previously treated advanced melanoma patients annually.

Iovance was founded to build upon the promise of TIL cell therapy that was previously demonstrated in single-center clinical trials at academic research centers, including the National Cancer Institute, or the NCI. Our multi-center trials, novel TIL cell therapy

products, manufacturing processes, facilities, and bioanalytical platforms have transformed TIL cell therapy into a commercially viable treatment which thousands of patients with cancer can access.

We manufacture Amtagvi® and our investigational TIL cell therapies using centralized, scalable, and proprietary manufacturing processes which rejuvenate and multiply polyclonal T cells unique to each patient into the billions and yields a cryopreserved, individualized therapy. Amtagvi® is manufactured for commercial use at our manufacturing facility, the Iovance Cell Therapy Center, or the *i*CTC, and by a contract manufacturing organization, or CMO.

Our development pipeline includes multicenter trials of TIL cell therapies in additional treatment settings and indications for solid tumor cancers. To potentially improve outcomes for patients, we are investigating TIL monotherapies for patients previously treated with standard of care therapies and TIL cell therapy in combination with standard of care therapies for patients in earlier treatment settings. We are conducting two ongoing registrational trials to support a supplementary BLA, or sBLA, of lifileucel in frontline advanced melanoma and in advanced non-small cell lung cancer, or NSCLC, following standard of care chemo-immunotherapy. We are also developing next generation therapies, such as genetically modified TIL cell therapy and next generation cytokines for use in the TIL cell therapy regimen.

Corporate Strategy

A global leader in innovating, developing, and delivering TIL cell therapy

Our mission is to be the global leader in innovating, developing, and delivering TIL cell therapy for patients with solid tumor cancers. We are pioneering this transformational approach to cure cancer by harnessing the human immune system's ability to recognize and destroy diverse cancer cells in each patient. As we continue to execute the U.S. launch of Amtagvi® and advance our pipeline, we are committed to continuous innovation to develop TIL cell therapies and optimize TIL treatment regimens that may extend and improve life for patients with cancer.

Successfully commercialize our lead product Amtagvi® for the treatment of post-anti-PD-1 advanced melanoma in the U.S.

Following U.S. FDA approval of Amtagvi® for the treatment of patients with post-anti-PD-1 advanced melanoma on February 16, 2024, our top priority is continuing to leverage our experienced marketing, payer access, and distribution teams, as well as a sales force with extensive experience in oncology and cell therapy for our commercialization efforts. Our medical affairs team is also educating key opinion leaders, or KOLs, about Amtagvi® and TIL cell therapy, as well as presenting and publishing our clinical results.

We are focusing ongoing Amtagvi® commercialization efforts on four primary areas:

- supporting operations and patient enrollment at authorized treatment centers, or ATCs, in the U.S. and activating ATCs in the EU, UK and Canada to prepare for anticipated 2025 regulatory approvals in those markets;
- educating, training, and collaborating with healthcare professionals, or HCPs, who will be administering our product, as well as community oncologists who will be referring patients to our ATCs and larger community practices that may become ATCs;
- operational excellence in launch execution, commercial manufacturing, and delivery of therapy; and
- continuous communication with payors about the value of Amtagvi® to facilitate strong reimbursement and patient access.

U.S. Commercial Launch of the First TIL Cell Therapy in Advanced Melanoma

Amtagvi®

Amtagvi® (lifileucel) was approved by the FDA on February 16, 2024 for the treatment of adult patients with unresectable or metastatic melanoma previously treated with a PD-1 blocking antibody, and if BRAF V600 mutation positive, a BRAF inhibitor with or without a MEK inhibitor. The approval is based on safety and efficacy results from the C-144-01 clinical trial, a global, multicenter trial investigating Amtagvi® in patients with advanced melanoma previously treated with anti-PD-1 therapy and targeted therapy, where applicable. We completed the Biologics Licensing Application, or BLA, submission in March 2023, which the FDA accepted in May 2023 for Priority Review.

Amtagvi® is manufactured using a proprietary process to collect and multiply a patient's unique T cells from a portion of their tumor. Amtagvi® returns billions of the patient's T cells back to the body to fight cancer. Amtagvi® is administered to patients as part of a treatment regimen that includes lymphodepletion and a short course of high-dose Proleukin® (aldesleukin).

There are three key steps in the Amtagvi® treatment process.

- **Step 1: Sample Collection.** A tumor tissue sample of at least 1.5 cm in diameter is collected during a surgical resection and shipped to an FDA-approved, centralized manufacturing facility.

- **Step 2: Manufacturing.** Upon arrival at the manufacturing facility, TIL are separated from other cells within the patient's tumor tissue sample. The cells are then multiplied into the billions. Upon completion of manufacturing, Amtagvi® is quality tested to meet specific product release criteria. The final product is cryopreserved and sent back to the ATC for administration to the patient.

- **Step 3: Treatment Regimen.** The Amtagvi® treatment regimen begins with non-myeloablative lymphodepletion, or NMA-LD, to suppress the immunosuppressive tumor microenvironment, which we believe enhances the efficacy of TIL cell therapy. After NMA-LD, Amtagvi® is infused and followed by a short course of up to six doses of Proleukin® to promote T cell activity.

Prior to the FDA approval of Amtagvi®, there were no FDA approved therapies for patients with advanced melanoma following anti-PD-1 therapy.

Proleukin®

Proleukin® (aldesleukin) is an IL-2 product used in the Amtagvi® treatment regimen and manufacturing process, as well as other commercial, clinical, manufacturing, and research settings, which provides additional revenue. In May 2023, we acquired the worldwide rights to Proleukin®, as well as the manufacturing, supply, and commercialization income generated from such rights and associated operations from Clinigen Holdings Limited, Clinigen Healthcare Limited, and Clinigen, Inc, which we refer to collectively as Clinigen. Ownership of Proleukin® provides an additional revenue source, secures our Proleukin® supply chain, lowers cost of goods, and reduces clinical trial expenses for Proleukin® used with our TIL cell therapies.

Proleukin® has received regulatory approvals for treatment of adults with metastatic melanoma and metastatic renal cell carcinoma in the U.S. Proleukin® is also licensed in multiple countries around the world for treatment of patients with metastatic renal cell carcinoma and/or metastatic melanoma. We also sell aldesleukin for clinical trial use and for use in the manufacturing of various cell and gene therapies to numerous third-party clients.

Manufacturing capacity for forecasted commercial and clinical demand

We are the first company to obtain FDA approval for a TIL cell therapy product. We believe that we are the only company in the U.S. to have a centralized, scalable, and commercially viable TIL manufacturing process. In clinical trials, more than 700 patients have been treated with Iovance TIL cell therapy products manufactured using our proprietary processes across multiple indications. Iovance TIL cell therapies are manufactured for commercial use and clinical trials at our manufacturing facility, the *i*CTC, and by a CMO. The FDA authorized *i*CTC for commercial manufacturing of Amtagvi® as well as our CMO for additional capacity to supplement our internal manufacturing. As built, the two facilities together have capacity to treat several thousands of cancer patients annually with commercial product and clinical supply.

The *i*CTC is the first centralized and scalable current Good Manufacturing Practice, or cGMP, manufacturing facility dedicated to producing TIL cell therapies, as well as the first FDA-approved facility for commercial TIL cell therapy. Located in Philadelphia, Pennsylvania, the 136,000 square foot *i*CTC is among the largest cell therapy manufacturing facilities globally. *i*CTC expansion is underway which is expected to increase capacity to supply over five thousand patients annually. Our long-term goal is to establish a manufacturing network that can supply TIL cell therapies to over ten thousand patients per year. The proximity of the *i*CTC to multiple airports facilitates delivery of TIL cell therapies to treatment centers. The *i*CTC is expected to cover logistics and delivery of TIL cell therapies in North America, Europe, and Australia. Ownership of our manufacturing facility allows us to control internal manufacturing capacity and product quality, manage supply and delivery logistics, implement process improvement and realize potential cost efficiencies for TIL cell therapies that we may develop and commercialize. We are also exploring next generation TIL cell therapy

manufacturing processes, treatments and technologies that may further streamline development timelines and costs. The *i*CTC has a flexible design that facilitates our expansion within the existing shell space and an option to build on an adjacent lot to support future growth and capacity needs.

We plan to carefully manage our cost structure and reduce the long-term cost of manufacturing our products. Details of related agreements are provided in the Research, Development, Manufacturing and License Agreements for TIL Cell Therapy section of this Annual Report on Form 10-K.

TIL Cell Therapy Clinical Development in Advanced, Metastatic or Unresectable Solid Tumor Cancers

Our TIL cell therapy platform and manufacturing process have been initially validated through the FDA approval of Amtagvi®. TIL cell therapy is a T cell-based immunotherapy technology platform that leverages patient-specific cells to recognize and attack diverse cancer cells that are unique to each patient. Unlike other cell therapies that act on a single or small number of shared antigen targets common to certain tumors, our individualized T cell therapies are polyclonal to target a variety of neoantigens that are unique to the patient and tumor. We believe this polyclonal cell therapy may be applicable to many solid tumor cancers, where the majority of immune targets are patient specific.

We have investigated TIL cell therapy in global, multicenter clinical trials in advanced melanoma, gynecological cancers, non-small cell lung cancer, or NSCLC, and head and neck squamous cell carcinoma, or HNSCC. Through ongoing academic collaborations, as well as government and other partners, we are investigating the next frontier for TIL cell therapy in other tumor types and treatment settings.

- **Frontline Advanced Melanoma:** In patients with frontline advanced melanoma not previously treated with anti-PD-1 therapy, we are investigating lifileucel in combination with pembrolizumab in TILVANCE-301, a global randomized Phase 3 clinical trial intended to support registration in advanced frontline melanoma, as well as to serve as a confirmatory trial to support full approval in post-anti-PD-1 advanced melanoma. TILVANCE-301 is expected to enroll approximately 670 patients and features dual primary endpoints of ORR and progression free survival, or PFS, assessed by blinded independent review committee. We also added Cohort 1D to our IOV-COM-202 trial to investigate lifileucel in combination with relatlimab and nivolumab in frontline advanced melanoma patients.

- **Advanced Non-Small Cell Lung Cancer:** In NSCLC, we are investigating lifileucel in two clinical trials in NSCLC patient populations with significant unmet need. IOV-LUN-202 is a registrational clinical trial of lifileucel in advanced NSCLC patients who have progressed following chemotherapy and anti-PD-1 therapy. The IOV-COM-202 trial in solid tumors includes cohorts of NSCLC patients treated with lifileucel monotherapy and combination therapy. We added Cohorts 3D and 3E to our IOV-COM-202 trial to investigate lifileucel in combination with pembrolizumab and chemotherapy in frontline advanced NSCLC patients.

- **Advanced Endometrial Cancer:** We initiated a clinical trial, IOV-END-201, in the second quarter of 2024 for lifileucel in endometrial cancer to potentially address the unmet need for patients previously treated with platinum-based chemotherapy and anti-PD-1 therapy regardless of mismatch repair.

- **Next Generation TIL Cell Therapy:** Our first genetically modified, TIL cell therapy, IOV-4001, is being investigated in the multi-center Phase 2 efficacy portion of a first-in-human clinical trial, IOV-GM1-201, in previously treated patients with advanced melanoma or NSCLC. IOV-4001 utilizes the gene-editing TALEN® technology, licensed from the clinical-stage biotechnology company, Cellectis S.A., or Cellectis, to inactivate the gene coding for PD-1. A second next generation TIL cell therapy, IOV-5001, is in Investigational New Drug, or IND, enabling studies. IOV-5001 is a genetically engineered, inducible, and tethered interleukin-12 TIL cell therapy designed to enhance TIL efficacy while optimizing safety.

- **Next Generation IL-2:** A Phase 1/2 clinical trial is underway to investigate IOV-3001, a second-generation, modified interleukin-2 analog, for use in the TIL therapy treatment regimen. Preclinical studies of IOV-3001 demonstrated the potential for improved safety with strong effector T cell expansion.

- **Additional Solid Tumor Cancers:** Iovance TIL cell therapy has been investigated in additional solid tumor cancers in Iovance- and investigator-sponsored clinical trials. Lifileucel was evaluated as a monotherapy and in combination with pembrolizumab in the Phase 2 C-145-03 and IOV-COM-202 clinical trials in multiple cohorts of patients with metastatic

HNSCC, and in patients with advanced cervical cancer in the C-145-04 multicenter Phase 2 clinical trial. Indications studied in investigator sponsored clinical trials supported by Iovance include soft tissue sarcoma, osteosarcoma, pancreatic and colorectal cancer, platinum resistant ovarian cancer, anaplastic thyroid cancer, non-melanoma skin cancer, and triple negative breast cancer.

Next-Generation TIL Therapy Product Candidates

Our next-generation technology platforms are designed to optimize outcomes with TIL cell therapy across three key initiatives: genetic modifications, potency, and new treatment regimens.

- *Genetic modifications:* In addition to IOV-4001, we are pursuing several targets for genetic modification that utilize the gene-editing TALEN® platform licensed from Cellectis. Single- and multiple- knockouts may further harness the immune system response to cancer and potentially increase the potency of TIL cell therapy. Preclinical development is ongoing with additional TIL products and TIL-cell lines using transient and stable gene inactivation, which may expand and activate TIL to achieve better efficacy while avoiding systemic side effects.

- *Cytokine-Tethered TIL Therapy*: Our genetically engineered, inducible, and tethered IL-12 TIL cell therapy, designated IOV-5001, is in IND-enabling studies. In preclinical studies, IOV-5001 augmented anti-tumor activity in vitro, and a clinical trial of a prior generation IL-12 TIL therapy at the NCI showed improved efficacy. A pre-IND meeting is planned with the FDA to discuss IOV-5001 in the first quarter of 2025 and then an IND application submission in 2026.

- *New treatment regimens:* We are exploring potential improvements to the TIL treatment regimen. We are investigating IOV-3001, a second generation, modified IL-2 analog, which we licensed from Novartis Pharma AG in 2020. We submitted an IND application for a phase 1/2 clinical trial of IOV-3001 for use in the TIL therapy treatment regimen in the third quarter of 2024, which was accepted in the fourth quarter of 2024. Results from non-human primate and IND-enabling studies of IOV-3001 were presented at the American Society of Clinical Oncology's 2024 Annual Meeting and demonstrate the potential for improved safety with strong effector T cell expansion.

Additional information is included in the Iovance-Sponsored Clinical Trials section of this Annual Report on Form 10-K.

Intellectual Property

We have established a leading intellectual property portfolio developed internally and licensed from third parties. We currently own more than 250 granted or allowed U.S. and international patents and patent applications pertaining to Amtagvi® and other TIL-related technologies that are expected to provide Amtagvi® with exclusivity into 2042. More than 75 U.S. patents are related to TIL cell therapy, including patents directed to compositions and methods of treatment in a broad range of cancers. Pending patent applications and granted patents cover the fields of TIL cell therapy, genetically edited TIL cell therapy, selected TIL cell therapy, small core or biopsy TIL cell therapy, fresh or frozen tumor digest-derived TIL cell therapy, TIL and ICI combination therapy, marrow infiltrating lymphocytes, or MIL therapy, and peripheral blood lymphocyte, or PBL, therapy. We also license rights to a broad range of technologies related to our platforms. More details on our intellectual property portfolio are included within this Annual Report on Form 10-K.

Iovance-Sponsored Clinical Trials

Frontline Advanced Melanoma

Melanoma is a common type of skin cancer, accounting for an estimated 100,640 patients diagnosed and 8,290 deaths in 2024 in the U.S. according to the Surveillance, Epidemiology and End Results program, or SEER, program. Following the accelerated approval of Amtagvi®, our confirmatory trial, TILVANCE-301, is designed to support a registrational path for lifileucel in combination with pembrolizumab in frontline advanced melanoma as well as to support full U.S. approval for Amtagvi®, which has received an accelerated U.S. approval in its initial indication in post-anti-PD-1 advanced melanoma.

TILVANCE-301 is a Phase 3 multicenter, open-label, randomized, parallel group, treatment clinical trial that will randomize approximately 670 patients with unresectable or metastatic melanoma who have had no prior therapy for metastatic or unresectable disease to investigate lifileucel in combination with pembrolizumab in the experimental arm compared with pembrolizumab monotherapy in the control arm. Patients in the experimental arm receive pembrolizumab prior to and after the lifileucel regimen until disease progression. In the control arm, pembrolizumab monotherapy is given every six weeks until disease progression, with an optional

crossover to lifileucel monotherapy upon confirmed progressive disease verified by a blinded independent review committee, or BIRC, and if patients meet eligibility criteria.

We reached agreement with the FDA on the TILVANCE-301 clinical trial design, including dual primary endpoints of ORR to support accelerated approval and PFS to support full approval of lifileucel in frontline advanced melanoma. The dual primary endpoints will be assessed by a BIRC using RECIST 1.1.

Our strategy in frontline melanoma is supported by clinical results from the ongoing Cohort 1A of our IOV-COM-202 clinical trial as well as prior published NCI data for TIL monotherapy in anti-PD-1 naïve melanoma patients. As of the most recent detailed Cohort 1A clinical data update in May 2024, we observed a 65% ORR in twenty-three patients per RECIST 1.1. Fifteen patients had a confirmed objective response, including seven complete responses and eight partial responses. Nearly all responders had ongoing responses, and eight responders had a duration of response of more than one year at the time of the data cut. The treatment-emergent adverse event, or TEAE, profile was consistent with the underlying advanced disease and the known adverse event profiles of pembrolizumab, lymphodepletion and IL-2 regimens.

Our strategy is also supported by several NCI trials of TIL cell therapy that were conducted prior to approval of anti-PD-1 therapies. In these trials, ORR was over 50% in anti-PD-1 naïve melanoma patients, and approximately 22-24% of patients had a complete response per RECIST 1.1. Most complete responses remained ongoing in three to seven years of follow up.

Lifileucel for Advanced, or Metastatic or Unresectable NSCLC

According to the SEER program estimates, approximately 234,580 people were diagnosed with lung and bronchus cancers, and approximately 125,070 deaths occurred related to these cancers in the U.S. in 2024. Patients previously treated with standard of care chemo-immunotherapy have a poor prognosis, limited treatment options, and a real-world overall survival of less than six months.

We are developing lifileucel alone and in combination with approved therapies to treat advanced NSCLC in the IOV-LUN-202 and IOV-COM-202 clinical trials.

IOV-LUN-202 Registrational Trial

IOV-LUN-202 is a single-arm, registrational trial investigating lifileucel in patients who have progressed on or after chemotherapy and anti-PD-1 therapy for advanced (unresectable or metastatic) NSCLC without epidermal growth factor receptor, or EGFR, ROS proto-oncogene receptor tyrosine kinase, or ROS, anaplastic lymphoma kinase, or ALK, genomic mutations and had received at least one line of an FDA-approved targeted therapy if indicated by other actionable tumor mutations. IOV-LUN-202 includes two registrational patient cohorts (Cohorts 1 and 2) and two exploratory patient cohorts (Cohort 3 and 4). The programmed death-ligand 1, or PD-L1, tumor proportion score, or TPS, in patients at the time they started frontline therapy was less than one percent or unknown in patients in Cohort 1 and greater than or equal to one percent in patients in Cohort 2. In Cohort 3, TIL is extracted from core biopsy and manufactured using our Gen 3 process. In Cohort 4, patients undergo surgical resection for TIL manufacturing prior to disease progression. Based on the regulatory discussions and positive regulatory feedback received by the FDA regarding the design of the IOV-LUN-202 trial, we plan to enroll a total of approximately 120 patients into the registrational Cohorts 1 and 2 of the IOV-LUN-202 trial.

In July 2023, we announced a preliminary analysis of the IOV-LUN-202 trial from 23 NSCLC patients treated with lifileucel. An objective response rate of 26.1% per RECIST 1.1 was observed in six patients, with one complete response and five partial responses, and a disease control rate of 82.6%. While still early on study, the median duration of response, or DOR, was not reached. The DOR ranged from 1.4+ months to 9.8+ months. Treatment-emergent adverse events were consistent with the underlying disease and known adverse event profiles of non-myeloablative lymphodepletion and interleukin-2. We also reported additional ongoing responses, and duration of response greater than six months for 71% of the confirmed responders in the trial, in an updated analysis from November 2023.

We believe the results from IOV-LUN-202 in previously treated patients with advanced NSCLC continue to support the potential benefit of one-time TIL cell therapy, including the opportunity for more durable responses than available second line chemotherapies.

The opportunity for TIL cell therapy in NSCLC is also supported by clinical results for lifileucel in heavily pre-treated patients with NSCLC in Cohort 3B of our IOV-COM-202 trial in solid tumors. At the Society for Immunotherapy of Cancer, or SITC, in November 2021, we reported Cohort 3B results from 28 patients who had progressed on or after prior immune checkpoint inhibitor, or

ICI, therapy, including patients with oncogene-driven tumors who received prior tyrosine kinase inhibitor, or TKI, therapy. The ORR was 21.4% per RECIST 1.1, including one complete response and five partial responses. The complete response remained ongoing at 37 months following treatment in a subsequent data extract from November of 2022. All Cohort 3B patients had received prior anti-PD-1/-L1 therapy, and all six responding patients had also received prior chemotherapy. The TEAE profile was consistent with the underlying disease and known adverse event profiles of non-myeloablative lymphodepletion and IL-2.

On December 22, 2023, the FDA placed a partial clinical hold on the IOV-LUN-202 trial in response to a reported Grade 5 (fatal) serious adverse event, or SAE, potentially related to the non-myeloablative lymphodepletion pre-conditioning regimen. In March 2024, the FDA lifted its partial clinical hold and we resumed enrollment in the IOV-LUN-202 trial.

A separate patient cohort, Cohort 3C, in IOV-COM-202 is investigating lifileucel in combination with ipilimumab or nivolumab in patients who previously received only a prior line of approved systemic ICI monotherapy.

Frontline NSCLC Development and Regulatory Strategy

In frontline NSCLC, our goal is to improve the current standard of care pembrolizumab maintenance therapy by administering TIL after completion of the initial chemo-immunotherapy. This approach is supported by initial results from Cohort 3A in the IOV-COM-202 trial which is evaluating lifileucel in combination with pembrolizumab in patients who have not received prior immunotherapy, including ICIs, and will be further investigated in the IOV-COM-202 trial in two new cohorts, 3D and 3E.

In November 2024, we reported updated preliminary results from Cohort 3A in the IOV-COM-202 trial at the Society for Immunotherapy of Cancer Annual Meeting which continue to demonstrate robust response rates and durability for lifileucel in combination with pembrolizumab in NSCLC patients who were not previously treated with immune checkpoint inhibitor therapy. A confirmed objective response was observed in 9 of 14 EGFR wild type patients, or 64.3%, including 6 of 11 patients, or 54.5%, who also had difficult-to-treat PD-L1 negative disease. Median duration of response was not reached at a median study follow up of 26.5 months. This data supports the opening of a new cohort, 3D, in the IOV-COM-202 trial to investigate lifileucel plus pembrolizumab following chemotherapy as part of frontline therapy for patients with EGFR wild type NSCLC, representing the majority of patients with an unmet medical need in this setting.

Gynecological Cancers

According to the SEER program estimates, in 2024, 67,880 women were diagnosed with uterine cancer and approximately 13,250 uterine cancer-related deaths occurred in the U.S. Moreover, approximately 13,820 women were diagnosed with cervical cancer, and approximately 4,630 cervical cancer-related deaths occurred in the U.S.

Advanced endometrial cancer, the most common form of uterine cancer, represents a significant opportunity for TIL cell therapy. Analogous to other tumor types, TIL cell therapy may offer benefit in the emerging treatment setting of patients who have no currently approved therapies for progression after post-anti-PD1 therapy and chemotherapy. We began a Phase 2 trial of lifileucel in post-anti-PD-1 and post-chemotherapy advanced endometrial cancer, including mismatch repair, or MMR, deficient and MMR proficient patient populations in the first half of 2024. Based on the TIL mechanism of action, the benefit of TIL cell therapy is likely to extend across patients with tumors that are MMR mechanism deficient and proficient.

The potential for TIL cell therapy in gynecological cancers is also supported by our clinical data for lifileucel alone and in combination with pembrolizumab in advanced cervical cancer. C-145-04 is a Phase 2, multicenter pivotal clinical trial which evaluated lifileucel monotherapy in patients previously treated with chemotherapy or previously treated with chemotherapy and ICIs, lifileucel in combination with pembrolizumab in Cohort 3 included patients who had not received prior systemic therapy.

Following an assessment of the current treatment landscape in gynecological cancers, we are prioritizing endometrial cancer over cervical cancer. We plan to continue to explore the use of TIL cell therapies in cervical cancer, including using genetically modified TIL products and using TIL products in combination with anti-PD-1/PD-L1 blocking antibody therapies in frontline cervical cancer, with the goal of returning to clinical development in the future.

IOV-4001 for Advanced Melanoma and NSCLC

We have a worldwide exclusive license from Cellectis that enables us to use certain TALEN® technology addressing multiple gene targets in several cancer indications, to develop genetically edited and potentially more potent TIL cell therapies. Our lead genetically modified TIL cell therapy, IOV-4001, utilizes this TALEN® technology to inactivate the gene coding for PD-1. We are investigating the safety and efficacy of IOV-4001 in IOV-GM1-201, a multicenter, first-in-human Phase 1/2 clinical trial in two patient cohorts. Cohort 1 includes patients with advanced melanoma, who were previously treated with anti-PD-1/PD-L1 blocking antibody therapy and, in those patients with BRAF mutations, after BRAF/MEK inhibitor therapy. In Cohort 2, we are investigating IOV-4001 in patients with metastatic NSCLC who have received no more than three prior lines of therapy, with or without oncogene driver mutations. We treated the first patient with IOV-4001 in the third quarter of 2022 and the Phase 1 safety portion of the clinical trial is completed.

Additional Clinical Trials

We previously investigated the potential for TIL cell therapy in metastatic HNSCC. The Phase 2 C-145-03 trial investigated lifileucel as monotherapy, using various manufacturing processes. The trial began in June 2017 and closed in January 2021 after reaching its pre-specified enrollment target. We also investigated lifileucel in combination with pembrolizumab in patients with HNSCC who are naïve to anti-PD-1 therapy in IOV-COM-202 Cohort 2A. The results from Cohort 2A are supportive of our strategies to develop TIL cell therapy in combination with pembrolizumab in earlier treatment settings for solid tumor cancers.

We have also explored the potential for polyclonal T cell immunotherapies in blood cancers. A first-in-human clinical trial, IOV-CLL-01, evaluated the safety and efficacy of IOV-2001, our polyclonal PBL therapy, in patients with relapsed or refractory chronic lymphocytic leukemia, or CLL, and small lymphocytic lymphoma, or SLL.

Manufacturing Processes

Iovance was founded to build upon the promise of TIL cell therapy that was previously demonstrated in single-center clinical trials at academic centers that have not been scalable or standardized to serve sizeable patient populations. Our multicenter trials and manufacturing processes have transformed TIL cell therapy into a commercially viable treatment which many more patients with cancer can access.

Our internal research and process development team has innovated TIL manufacturing and processing. Our initial Gen 1 manufacturing process modified the NCI's original TIL manufacturing and processing so that it could be reproduced in a cGMP environment. Gen 1 TIL expansion occurred over a 5-to-6-week period and produced a non-cryopreserved product.

Building upon initial success with the Gen 1 process, our proprietary Gen 2 technology introduced manufacturing and logistical efficiencies aimed at further optimizing treatment and streamlining distribution processes. Gen 2 manufacturing takes about 22 days and produces a cryopreserved final product. We currently use Gen 2 to manufacture our commercial product, Amtagvi®, and in most ongoing Iovance clinical trials. We are also committed to further improving and streamlining the processes for TIL cell therapy manufacturing and tumor sample collection.

Gen 2 Manufacturing Process

During the Gen 2 process, TILs are multiplied into the billions or $10^9 – 10^{11}$ of TIL. The process begins by collecting the patient's tumor tissue by surgical biopsy for shipment to a central manufacturing facility, the *i*CTC or our CMO. The tumor is fragmented to facilitate a clear path for TILs to leave the tumor tissue and placed in media that optimizes the growth of TIL rather than other cell types. From days 0-11, cells grow slowly during the pre-rapid expansion, or pre-rep phase. The rapid expansion phase occurs from days 11-22. On Day 11, the cells are transferred to a larger bioreactor and feeder cells are introduced to further activate the TILs to proliferate. On day 16, the TILs are harvested while maintaining a closed system before they are counted and placed into multiple bioreactors which are incubated one last time. On day 22, TILs are filtered, washed, concentrated, and formulated with cryopreservation media before being placed in the final product bags and shipped back to the patient's treatment center. Our commercial product, Amtagvi®, undergoes additional analytical and quality testing to meet certain criteria for commercial release prior to shipment to the ATCs.

Large-Scale Centralized Manufacturing for TIL Cell Therapies

The cell processing activities for our TIL cell therapies are conducted at centralized facilities under cGMP, using qualified equipment and materials. We manufacture our commercial product, Amtagvi®, at both our internal facility and a CMO to meet manufacturing capabilities and the current and expected demand for commercialization and clinical trials. The *i*CTC is the first FDA-approved, centralized and scalable cGMP manufacturing facility dedicated to producing TIL cell therapies. Through a manufacturing service agreement, or MSA, with WuXi Advanced Therapies, Inc., or WuXi, WuXi manufactures, packages, ships and handles quality assurance and quality control of our commercial product, Amtagvi®, working closely with our employees.

Certain clinical trials for our investigational TIL cell therapies are also supported by CMOs. These relationships are described in more detail in the Research, Development, Manufacturing, and License Agreements for TIL Cell Therapy section of this Annual Report on Form 10-K.

We expect to rely on our own manufacturing capabilities, together with other third parties, for the manufacturing and processing of commercial and investigational TIL cell therapy products to ensure sufficient capacity is available for commercial purposes and clinical trials. As an alternative, we also believe that, given sufficient time to hire staff and increase production, we have the ability to move our production of commercial and investigational TIL cell therapy products entirely in-house. We believe that all materials and components utilized in the production of the final TIL product are readily available from qualified suppliers.

Research, Development, Manufacturing, and License Agreements for TIL Cell Therapy

WuXi Advanced Therapies, Inc.

Manufacturing and Services Agreements

Since November 2016, we entered into various manufacturing services agreements with WuXi Advanced Therapies, Inc., and its parent company WuXi Apptec, Co. Ltd, or collectively, WuXi, pursuant to which WuXi agreed to provide manufacturing and other services for two cGMP manufacturing suites for commercial, clinical manufacturing and related testing services. Both suites are capable of use for the commercial manufacture of our products. We do not utilize WuXi for the manufacture of our next generation therapies.

National Institutes of Health and the National Cancer Institute

Cooperative Research and Development Agreement

In August 2011, we signed a five-year Cooperative Research and Development Agreement, or CRADA, with the NCI to work on the development of adoptive cell immunotherapies in multiple solid tumor types, including unmodified TIL as a stand-alone therapy or in combination, improved methods for the generation and selection of TIL cell therapy with anti-tumor reactivity, and strategies for more potent TILs. The CRADA has been amended since then to, among other things, extend the term of the CRADA, include new indications such as bladder, lung, triple-negative breast, and Human Papilloma Virus, or HPV, associated cancers and modify the focus on the development of unmodified TIL as a stand-alone therapy or in combination, the evaluation in clinical trials of strategies for development of more potent TILs, such as selection of CD39/69 double negative cells and the use of certain inhibitors or other reagents in TIL expansion cultures.

In July 2024, we and the NCI entered into a fourth amendment to the CRADA to extend its term by an additional five years to August 2029. The fourth amendment also includes collaboration on preclinical and clinical development of enhanced tumor reactive TIL products for the treatment of a broad range of common epithelial cancers.

Pursuant to the terms of the CRADA, as amended, we were required to make quarterly payments of $0.5 million to the NCI for support of research activities through the end of 2024. Commencing in 2025, we are required to make quarterly payments of $0.9 million to the NCI for the support of research activities through the end of the CRADA's term. To the extent we license patent rights relating to a TIL-based product candidate, we will be responsible for all patent-related expenses and fees, past and future, relating to the TIL-based product candidate. In addition, we may be required to supply certain test articles, including TIL, grown and processed under cGMP conditions, suitable for use in clinical trials. We or the NCI may unilaterally terminate the CRADA for any reason or for no reason, at any time, by providing written notice at least 60 days before the desired termination date.

Patent License Agreement Related to the Development and Manufacture of TIL Cell Therapies

We entered into an Exclusive Patent License Agreement, or the Patent License Agreement, with the National Institutes of Health, or NIH, an agency of the U.S. Public Health Service within the Department of Health and Human Services, in 2011, as amended in 2015. Pursuant to the Patent License Agreement, as amended, the NIH granted us licenses, including exclusive, co-exclusive, and non-exclusive licenses, to certain technologies relating to autologous tumor infiltrating lymphocyte adoptive cell therapy products for the treatment of metastatic melanoma, lung, breast, bladder, and HPV-positive cancers.

In May 2021, we entered into an Amended and Restated Patent License Agreement with NIH, which included the grant of additional exclusive, worldwide patent rights in the indications to interleukin-15 and interleukin-21 cytokine-tethered TIL technology, and expanded the non-exclusive, worldwide field of use to all cancers. In August 2022, we entered into a Second Amended and Restated Patent License Agreement with NIH to include additional exclusive, worldwide patent rights to TIL products expressing interleukin-12, expanded rights to TIL selection technologies previously licensed under the Exclusive Patent License Agreement below, and additional non-exclusive, worldwide patent rights to certain technologies related to enhancing TIL potency.

The Second Amended and Restated Patent License Agreement requires us to pay royalties based on a percentage of net sales in jurisdictions where patent rights exist, which percentage can fall into a tier that may be less than one percent to mid-single digits depending upon certain events, including the exclusivity of the rights, and we expect lower overall royalty payments as a result. We are also required to pay potential milestone payments on the achievement of certain clinical, regulatory, and commercial sales milestones for each of the exclusive indications and other direct costs incurred by the NIH pursuant to the Second Amended and Restated Patent License Agreement. We have made and anticipate making additional milestone payments that could range from several hundred thousand dollars to the mid-single-digit millions of dollars in conjunction with certain development milestones, the approval of a BLA or its foreign equivalent, or the first U.S. and foreign commercial sales of any of our product candidates covered by the Second Amended and Restated Patent License Agreement. The term of the Second Amended and Restated Patent License Agreement continues until the expiry of the last-to-expire patent rights licensed thereunder, and the agreement contains standard termination provisions.

Exclusive Patent License Agreement Related to TIL Selection

In February 2015, we entered into an exclusive patent license agreement, or the Exclusive Patent License Agreement, with the NIH under which we received an exclusive worldwide license under the selected TIL patents. This license was superseded and replaced by the Second Amended and Restated Patent License Agreement.

H. Lee Moffitt Cancer Center

Research Collaboration and Clinical Grant Agreement

In June 2020, we entered into a Sponsored Research Agreement, or the SRA, with the H. Lee Moffitt Cancer Center, or Moffitt, with a term that ends either upon completion of the research thereunder or on July 1, 2022, whichever is sooner. The SRA was then extended numerous times, most recently to May 31, 2025

The University of Texas M.D. Anderson Cancer Center

Strategic Alliance Agreement

In April 2017, we entered into a Strategic Alliance Agreement, or the SAA, with the University of Texas M.D. Anderson Cancer Center, or MDACC, under which we and MDACC agreed to conduct clinical and preclinical research studies. We agreed in the SAA to provide total funding not to exceed approximately $14.2 million for the performance of the multi-year studies under the SAA. In return, we acquired all rights to inventions resulting from the studies and have been granted a non-exclusive, sub-licensable, royalty-free, and perpetual license to specified background intellectual property of MDACC reasonably necessary to exploit, including the commercialization thereof. We have also been granted certain rights to clinical data generated by MDACC outside of the clinical trials to be performed under the SAA. The SAA's term shall continue in effect until the later of the fourth anniversary of the SAA or the completion or termination of the research and receipt by us of all deliverables due from MDACC thereunder. On March 28, 2024, we entered into the first amendment to the SAA, under which we and MDACC agreed to conduct additional preclinical research studies.

Cellectis S.A.

Research Collaboration and Exclusive Worldwide License Agreement

In December 2019, we entered into a research collaboration and exclusive worldwide license agreement whereby we will license gene-editing technology from Cellectis, a clinical-stage biopharmaceutical company, to develop TIL cell therapies that have been genetically edited, including a PD-1 inactivated product that we refer to as IOV-4001. Financial terms of the license include annual license payments and development, regulatory and sales milestone payments from us to Cellectis, as well as royalty payments based on net sales of TALEN® modified TIL products.

Novartis Pharma AG

License Agreement

In January 2020, we obtained a license from Novartis Pharma AG, or Novartis, to develop and commercialize an antibody cytokine engrafted protein, which we refer to as IOV-3001. Under the agreement, we have paid an upfront payment to Novartis and may pay future milestones related to initiation of patient dosing in various phases of clinical development for IOV-3001 and approval of the product in the U.S., the European Union, or EU, and Japan. Novartis is also entitled to low-to-mid single digit percentage royalties from commercial sales of the product.

In May 2023, as part of the completion of the acquisition of the worldwide rights to Proleukin®, or the Acquisition, we inherited two historical asset purchase agreements, one historical master cell bank license and working cell bank transfer agreement and one historical license agreement from Clinigen with Novartis AG, Novartis Pharma AG and Novartis Vaccines and Diagnostics, Inc. pursuant to which, among other things, we may be required to make future milestone payments based on net sales (as defined in the relevant underlying agreements) in the U.S. and the rest of world, which includes any and all sales outside of the U.S.

Boehringer Ingelheim Biopharmaceuticals GmbH

In May 2023, as part of the Acquisition, we inherited a manufacturing and supply agreement from Clinigen with Boehringer Ingelheim Biopharmaceuticals GmbH, or BI, pursuant to which BI will carry out the processing, manufacturing, and supply of Proleukin® in unlabeled vials. The term of this agreement is through October 2025, with automatic renewals for a period of two years unless terminated as permitted by the contract. Under this agreement, we must purchase a minimum number of vials each calendar year at fixed prices determined by vial batch size.

TIL Cell Therapy Landscape in Solid Tumors

Immune System and Cancer Surveillance

The immune system recognizes danger signals and responds to threats at a cellular level. The most significant components of the cellular aspect of the adaptive immune response are T cells, or T lymphocytes, so called because they mature in the thymus and are distinguished from B-cells, which mature in the bone marrow. T cells can be distinguished from other white blood cells by T cell receptors present on their cell surface. These receptors contribute to tumor surveillance by helping T cells recognize infected as well as cancerous cells. T cells are involved in both sensing and killing infected or cancerous cells, as well as coordinating the activation of other cells in an immune response.

Challenges for Cancer Immunotherapy

According to SEER, solid tumor cancers represent more than 90 percent of all cancers diagnosed in the U.S. annually. Despite progress over the past several decades, effective treatment of solid tumors continues to be challenging for several reasons, including: (i) intratumoral heterogeneity, (ii) numerous mutations and tumor neoantigens, with <1% shared across patients and lack of clarity on which mutations or neoantigens are critical, and (iii) ability to adapt and evade treatments that target a single mutation. In addition, the tumor itself and the tumor microenvironment can suppress the patient's natural immune response. When T cells with cancer-specific receptors are absent, present in low numbers, of poor quality, or rendered inactive by suppressive mechanisms employed by tumor tissue, the cancer can grow and spread to various organs. In addition, certain standard of care treatments for cancer can be deleterious to T cells' ability to kill cancer.

Advancing Immuno-Oncology with Our TIL Technology Platform

We believe that adoptive cell therapy, specifically the use of human polyclonal TIL cells to reengage the immune system, may be a significant advancement in the treatment of cancer. Our TIL technology platform was validated by the first FDA approval of a TIL cell therapy and is potentially applicable to many solid tumor cancers. This platform is focused on leveraging patient-specific cells to recognize and attack diverse cancer cells that are unique to each patient. Unlike cell therapies that act on a single or small number of shared antigen targets common to certain tumors, TIL cell therapy is an individualized, polyclonal T cell therapy designed to target a variety of neoantigens that are unique to the patient or tumor.

Our initial strategy is to deliver our commercial product, Amtagvi®, as well as investigational TIL cell therapies to patients with late-stage solid tumor cancers. After infusion, TIL can potentially infiltrate the tumor to eliminate cancer cells, further proliferate in the body and potentially overcome several mechanisms of tumor escape to which endogenous T cells may be susceptible due to the immune-suppressive tumor microenvironment.

For earlier intervention, we are investigating our TIL cell therapy in combination with ICIs. These ICIs seek to overcome one of the main escape mechanisms of cancer against an immune system attack. TIL cell therapy and ICIs may work in combination to target and attack cancer cells while breaking down barriers for the immune system to mount a response.

Competition

The biotechnology and pharmaceutical industries put significant resources into developing novel and proprietary therapies for the treatment of cancer. We compete with multiple entities who have developed and are developing immuno-oncology therapies, including large and specialty pharmaceutical and biotechnology companies, academic research institutions, other public and private research institutions, including universities and public and private research institutions in the U.S. and Europe, as well as companies developing novel targeted therapies for cancer. Universities and public and private research institutions in the U.S. and Europe are also potential competitors. For example, a Phase 3 M14TIL clinical trial comparing TIL to standard ipilimumab in patients with metastatic melanoma conducted in Europe by the Netherlands Cancer Institute, the Copenhagen University Hospital at Herlev, and the University of Manchester. Results from the M14TIL clinical trial were presented at the European Society for Medical Oncology Congress in September 2022 and published in the New England Journal of Medicine in December 2022. While these universities and public and private research institutions primarily have educational objectives, they may develop proprietary technologies that lead to other approved therapies or secure patent protection that we may need for the development of our technologies and products.

Due to the promising clinical therapeutic effect of competitor therapies in clinical trials, we anticipate substantial direct competition from other organizations developing therapies in our commercial and pipeline target indications. In particular, we expect to compete with other new therapies for our lead indications developed by companies such as BioNtech, Bristol-Myers Squibb, Daiichi Sankyo, Eisai, Genmab, Immunocore, IO Biotech, Merck, Moderna, Pfizer, Regeneron Pharmaceuticals, and Replimune. We also may compete with other T cell therapies in development, including therapies based on genetically engineered T cell receptors rendered reactive against tumor-associated antigens prior to their administration, other genetically engineered TIL products, and TIL products designed to be reactive to specific neoantigens, by companies such as AbelZeta Pharma, Achilles Therapeutics, Adaptimmune Therapeutics, Alaunos Therapeutics, Biosyngen, GRIT Biotechnology, Immatics, Immunocore, Intima Bioscience, KSQ Therapeutics, Lyell Immunopharma, Marker Therapeutics, Obsidian Therapeutics, TILT Biotherapeutics, and others. To date, these technologies have been primarily applicable to hematologic malignancies, but their application in solid tumor indications may create competition with us. We may also face competition from immunotherapy treatments offered by companies such as Amgen, AstraZeneca, Bristol-Myers Squibb, Merck, Pfizer, Regeneron Pharmaceuticals, Roche, and others. We may also face competition from novel IL-2 treatments in development by Alkermes, ILToo Pharma, Merck, Nektar Therapeutics, Sanofi, Werewolf Therapeutics, and others. Many of these companies and our other current and potential competitors have substantially greater research and development capabilities and financial, scientific, regulatory, manufacturing, marketing, sales, human resources, and experience than we do. Many of our competitors have several therapeutic products that have already been developed, approved, and successfully commercialized, or are in the process of obtaining regulatory approval for their therapeutic products in the U.S. and internationally. Our competitors may obtain regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in competitors establishing a strong market position before we are able to enter the market.

Our portfolio includes our commercial products Amtagvi® and Proleukin® as well as our pipeline of investigational TIL cell therapies. Currently, there are numerous companies that are developing various alternate treatments for advanced melanoma, NSCLC and other solid tumor cancers that we are seeking to address, including patients that have progressed after prior treatment with checkpoint

inhibitors and chemotherapy. Accordingly, our TIL cell therapies face significant competition from multiple companies. Even with the regulatory approval for Amtagvi®, the availability and price of our competitors' products could limit the demand and the price we are able to charge for our therapies.

Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated among a smaller number of our competitors. Early-stage companies may also prove to be significant competitors, including through collaborative arrangements with large and established companies. These companies compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies that are similar to those that we have developed or that we use for, or that are complementary to, or necessary for, our programs.

Our commercial success may depend in part on our ability to obtain and maintain patent and other proprietary protection for commercially important technology, inventions, and know-how related to our business; defend and enforce our patents; preserve the confidentiality of our trade secrets; and operate without infringing the valid enforceable patents and proprietary rights of third parties. Our ability to stop third parties from making, using, selling, offering to sell, or importing our products may depend on the extent to which we have rights under valid and enforceable patents or trade secrets that cover these activities. 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 commercial products and methods of manufacturing the same. We may rely, in some circumstances, on trade secrets to protect our technology. However, trade secrets can be difficult to protect.

We seek to protect our proprietary technology and processes, in part, by entering into confidentiality agreements with our employees, consultants, scientific advisors and contractors. We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we require these individuals, organizations, and systems to take steps to abide by the terms and conditions of the confidentiality agreements, confidentiality may be breached, or our data may be improperly used or disclosed, and we may not have adequate remedies for any breach or improper use or disclosure. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. To the extent that our consultants, contractors or collaborators use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions.

Intellectual Property

We aim to lead in the field of T cell-based immunotherapy by building and augmenting the patent rights for our proprietary TIL technology platform, which we have developed internally and licensed from third parties. Intellectual property is of importance in our field and in biotechnology generally. We seek to protect and enhance proprietary technology, inventions, and improvements that are commercially important to the development of our business by seeking, maintaining, and defending patent rights. We also plan to rely on regulatory protection afforded through Orphan Drug Designation, or ODD, available regulatory exclusivities, and patent term extensions where available. To achieve this objective, our strategic focus has been to develop our own intellectual property, while also identifying and licensing patents from third parties that provide protection and serve as an optimal platform to enhance our intellectual property and technology base. We expect to further develop our patent portfolio as a strategic focus in 2025.

We have established a leading intellectual property portfolio developed internally and licensed from third parties. We currently own more than 75 U.S. patents related to TIL cell therapy, including patents directed to compositions and methods of treatment in a broad range of cancers, such as U.S. Patent Nos. 10,130,659; 10,166,257; 10,272,113; 10,363,273; 10,398,734; 10,420,799; 10,463,697; 10,517,894; 10,537,595; 10,639,330; 10,646,517; 10,653,723; 10,695,372; 10,894,063; 10,905,718; 10,918,666; 10,925,900; 10,933,094; 10,946,044; 10,946,045; 10,953,046; 10,953,047; 11,007,225; 11,007,226; 11,013,770; 11,026,974; 11,040,070; 11,052,115; 11,052,116; 11,058,728; 11,083,752; 11,123,371; 11,141,438; 11,168,303; 11,168,304; 11,179,419; 11,202,803; 11,202,804; 11,220,670; 11,241,456; 11,254,913; 11,266,694; 11,273,180; 11,273,181; 11,291,687; 11,304,979; 11,304,980; 11,311,578; 11,337,998; 11,344,579; 11,344,580; 11,344,581; 11,351,197; 11,351,198; 11,351,199; 11,364,266; 11,369,637; 11,384,337; 11,433,097; 11,517,592; 11,529,372; 11,541,077; 11,713,446; 11,819,517; 11,857,573; 11,865,140; 11,866,688; 11,939,596; 11,969,444; 11,975,028; 11,981,921; 12,023,355; 12,024,718; 12,031,157; 12,104,172; 12,121,541; 12,159,700; 12,170,134; 12,188,048 and 12,194,061. More than 40 of these patents are related to our Gen 2 TIL manufacturing processes and have terms that we anticipate will extend to October 2037 or January 2038, not including any patent term extensions or adjustments that may be available. Our owned and licensed intellectual property portfolio also includes patents and patent applications relating to TIL, marrow

infiltrating lymphocytes, or MIL, and peripheral blood lymphocyte, or PBL, therapies; frozen tumor-based TIL technologies; remnant TIL and digest TIL compositions, methods and processes; methods of manufacturing TIL, MIL, and PBL therapies; the use of costimulatory and T cell modulating molecules in TIL cell therapy and manufacturing; stable and transient genetically-modified TIL cell therapies, including genetic knockouts of immune checkpoints; cytokine-tethered TIL cell therapies; methods of using ICIs in combination with TIL cell therapies; TIL selection technologies; and methods of treating patient subpopulations.

Government Regulations

The FDA and other regulatory authorities at federal, state, and local levels, as well as in foreign countries, extensively regulate, among other things, the research, development, testing, manufacture, quality control, import, export, safety, effectiveness, labeling, packaging, storage, distribution, record keeping, approval, advertising, promotion, marketing, post-approval monitoring, and post-approval reporting of biologics such as those we are developing. We, along with our third-party contractors, will be required to navigate the various preclinical, clinical, and commercial approval and post-approval requirements of the governing regulatory agencies of the countries in which we wish to conduct studies or seek approval or licensure of our product candidates. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local, and foreign statutes and regulations require the expenditure of substantial time and financial resources.

Biologic products are regulated by the FDA under a combination of the federal Food, Drug, and Cosmetic Act, or FDCA, and Public Health Services Act, or PHSA, and the FDA's implementing regulations. Failure to comply with regulatory requirements may result in significant regulatory actions. Such actions may include refusal to approve pending applications, license suspension or revocation, withdrawal of an approval, imposition of a clinical hold or termination of clinical trials, warning letters, untitled letters, modification of promotional materials or labeling, provision of corrective information, imposition of post-market requirements, including the need for additional testing, imposition of distribution or other restrictions under a Risk Evaluation and Mitigation Strategy, or REMS, product recalls, product seizures or detentions, refusal to allow imports or exports, total or partial suspension of production or distribution, FDA debarment, injunctions, fines, consent decrees, corporate integrity agreements, debarment from receiving government contracts and new orders under existing contracts, exclusion from participation in federal and state healthcare programs, restitution, disgorgement, or civil or criminal penalties, including fines and imprisonment, and adverse publicity, among other adverse consequences.

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

- completion of preclinical laboratory tests and animal studies performed in accordance with the FDA's current Good Laboratory Practices, or cGLP, regulation, as well as manufacturing development and formulation studies;
- submission to the FDA of an investigational new drug application, or IND, which must become effective before clinical trials may begin and must be updated annually or when significant changes are made;
- approval by an independent Institutional Review Board, or IRB, or ethics committee at each clinical site or centrally, before the clinical trial begins;
- performance of adequate and well-controlled human clinical trials, in accordance with the FDA's current Good Clinical Practices, or cGCP, regulation, to establish the safety, purity, and potency of the proposed biologic product candidate for its intended purpose;
- preparation of and submission to the FDA of a BLA, after completion of pivotal clinical trial(s);
- satisfactory completion of an FDA Advisory Committee review, if applicable;
- a determination by the FDA within 60 days of its receipt of a BLA to file the application for review;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities at which the proposed product is produced to assess compliance with cGMP, and to assure that the facilities, methods and controls are adequate to preserve the biological product's continued safety, purity and potency, and of selected clinical sites to assess compliance with cGCPs; and
- FDA review and approval of the BLA to permit commercial marketing of the product for particular indications for use in the U.S., which must be updated periodically when changes are made.

The testing and approval process requires substantial time, effort and financial resources, and we cannot be certain that any approvals for our product candidates will be granted on a timely basis, if at all. Prior to beginning the first clinical trial with a new product candidate, we must submit an IND to the FDA. An IND is a request for authorization from the FDA to administer an investigational new drug product to humans. The central focus of an IND submission is on the general investigational plan and the

protocol(s) for clinical trials. The IND also includes results of animal and in vitro studies assessing the toxicology, pharmacokinetics, pharmacology, and pharmacodynamic characteristics of the product; chemistry, manufacturing, and controls information; and any available human data or literature to support the use of the investigational product. An IND must become effective before human clinical trials may begin. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within that initial 30-day time period, raises concerns or questions about the proposed clinical trial. In such a case, the IND may be placed on clinical hold and the IND sponsor and the FDA must resolve any outstanding concerns or questions before the clinical trial can begin. Clinical holds also may be imposed by the FDA at any time before or during clinical trials due to safety concerns or non-compliance. Submission of an IND therefore may or may not result in FDA authorization to begin a clinical trial.

Human immunotherapy products are a new category of therapeutics. Because this is a relatively new and expanding area of novel therapeutic interventions, there can be no assurance as to the length of the clinical trial period, the number of patients the FDA will require to be enrolled in the clinical trials in order to establish the safety, efficacy, purity, and potency of immunotherapy products, or that the data generated in these clinical trials will be acceptable to the FDA to support marketing approval.

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with cGCPs, which include the requirement that all research subjects provide their informed consent for their participation in any clinical trial. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated, and a statistical analysis plan. A separate submission to the existing IND must be made for each successive clinical trial conducted during product development and for any subsequent protocol amendments. Investigators must also provide certain information to the clinical trial sponsors to allow the sponsors to make certain financial disclosures to the FDA.

Furthermore, an independent IRB for each site proposing to conduct the clinical trial centrally must review and approve the plan for any clinical trial, its informed consent documentation and processes, and any subject communications before the clinical trial begins at that site and upon amendment of the clinical trial protocol, and must monitor the clinical trial until completed. An IRB considers, among other things, whether the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits and whether the planned human subject protections are adequate. Informed consent must be received from each clinical trial subject prior to participation in a clinical trial. Progress reports detailing the results of the clinical trials must also be submitted at least annually to the FDA and the IRB and more frequently if serious adverse events or other significant safety information is found.

Regulatory authorities, the IRB, or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk, that the clinical trial is not being conducted in accordance with regulatory or IRB requirements, or that the clinical trial is unlikely to meet its stated objectives. Sponsors may also discontinue studies or development programs for many reasons, including changing business objectives. Some studies also include oversight by an independent group of qualified experts organized by the clinical trial sponsor, known as a data safety monitoring board, or DSMB, which provides recommendations and assessments for whether or not a clinical trial should move forward at designated check points based on access to certain data from the clinical trial. Following a review by a DSMB, the clinical trial may be halted if there is an unacceptable safety risk for subjects or on other grounds, such as failure to demonstrate efficacy. There are also requirements governing the reporting of ongoing clinical trials and clinical trial results to public registries. For instance, we are required to register certain clinical trials and post the results of certain completed clinical trials on a government-sponsored database, ClinicalTrials.gov, within specified timeframes, and also to certify to the FDA our compliance with these requirements when we make FDA submissions. Failure to make required ClinicalTrials.gov submissions, submitting false or misleading information to ClinicalTrials.gov, or making false certifications to the FDA could result in enforcement actions, including civil money penalties and adverse publicity.

For purposes of BLA approval, human clinical trials are typically conducted in three sequential phases that may overlap. Although these are the typical phases for progression and characteristics of the phases of a clinical development program, certain expedited programs allow for variations that could support a marketing application based on surrogate endpoints, intermediate clinical endpoints, or single-arm as opposed to comparative or placebo-controlled studies.

- Phase 1 - The investigational product is initially introduced into healthy human subjects or patients with the target disease or condition. These studies are designed to test the safety, dosage tolerance, absorption, metabolism and distribution of the investigational product in humans, the side effects associated with increasing doses, and, if possible, to gain early evidence on effectiveness.

- Phase 2 - The investigational product is administered to a limited patient population with a specified disease or condition to evaluate the preliminary efficacy, optimal dosages, and dosing schedule and to identify possible adverse side effects and safety risks. Multiple Phase 2 clinical trials may be conducted to obtain information prior to beginning larger and more expensive Phase 3 clinical trials.
- Phase 3 - The investigational product is administered to an expanded patient population in adequate and well-controlled studies to further evaluate dosage, to provide statistically significant evidence of clinical efficacy, and to further test for safety, generally at multiple geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit relationship of the investigational product and to provide an adequate basis for product approval. Typically, two Phase 3 studies are required by the FDA for product approval.
- Phase 4 - In some cases, the FDA may require, or companies may voluntarily pursue, additional clinical trials after a product is approved to gain more information about the product, known as post-approval requirements or commitments, respectively. These so-called Phase 4 studies may be made a condition to approval of the BLA.

Additional types of data may also help to support a BLA, such as real-world evidence and patient experience data. Phase 1, Phase 2 and Phase 3, and Phase 4 testing, if applicable, may not be completed successfully within a specified period, if at all, and there can be no assurance that the data collected will support FDA approval or licensure of the product. Concurrently with clinical trials, companies may complete additional animal studies and develop additional information about the biological characteristics of the product candidate and must finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, must develop methods for testing the identity, strength, quality, and purity of the final product, or for biologics, the safety, purity and potency. Additionally, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life and manufacturing processes must be validated.

The manufacture of investigational biologics for the conduct of human clinical trials is subject to cGMP requirements. Investigational biologics and active ingredients imported into the U.S. are also subject to regulation by the FDA relating to their labeling and distribution. Further, the export of investigational products outside of the U.S. is subject to regulatory requirements of the importing country as well as U.S. export requirements under the FDCA. Additional U.S. and foreign laws and regulations may also be applicable to the handling, import, export, and transportation of biological materials, including tissue samples.

In December 2022, with the passage of Food and Drug Omnibus Reform Act, Congress required sponsors to develop and submit a diversity action plan for each Phase 3 clinical trial or any other “pivotal study” of a new drug or biological product. These plans are meant to encourage the enrollment of more diverse patient populations in late-stage clinical trials of FDA-regulated products. Specifically, diversity action plans must include the sponsor’s goals for enrollment, the underlying rationale for those goals, and an explanation of how the sponsor intends to meet them. In terms of the compliance deadline, the requirement to submit a diversity action plan applies to clinical studies for which enrollment begins 180 days after the final guidance is published, which was originally anticipated to occur in June 2025. In January 2025, the draft guidance was removed from the FDA website, which may impact the eventual publication date of the final guidance, and as a result, may delay the compliance deadline beyond June 2025.

During the development of a new therapeutic, a sponsor may be able to request a Special Protocol Assessment, or SPA, the purpose of which is to reach an agreement with the FDA on the Phase 3 clinical trial protocol design and analysis that will form the primary basis of product approval and an efficacy claim, as well as preclinical carcinogenicity trials and stability studies. An SPA may only be modified with the agreement of the FDA and the clinical trial sponsor, or if the director of the FDA reviewing division determines that a substantial scientific issue essential to determining the safety or efficacy of the product was identified after the testing began. An SPA is intended to provide assurance that, in the case of clinical trials, if the agreed upon clinical trial protocol is followed, the clinical trial endpoints are achieved, and there is a favorable risk-benefit profile, the data may serve as the primary basis for an efficacy claim in support of a BLA. However, SPA agreements are not a guarantee of approval of a product candidate or any permissible claims about the product candidate. In particular, SPAs are not binding on the FDA if, among other reasons, previously unrecognized public health concerns arise during the performance of the clinical trial, other new scientific concerns regarding the product candidate’s safety or efficacy arise, or if the sponsoring company fails to comply with the agreed upon clinical trial protocol.

In addition, under the Pediatric Research Equity Act, or PREA, a BLA or supplement to a BLA for a new active ingredient, indication, dosage form, dosage regimen, or route of administration, must contain data that are adequate to assess the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations, and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. Also, under the FDA Reauthorization Act of 2017, beginning in 2020, sponsors submitting applications for product candidates intended for the treatment of adult cancer which are directed at

molecular targets that the FDA determines to be substantially relevant to the growth or progression of pediatric cancer must submit, with the application, reports from molecularly targeted pediatric cancer investigations designed to yield clinically meaningful pediatric clinical trial data, using appropriate formulations, to inform potential pediatric labeling. The FDA may, on its own initiative or at the request of the applicant, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements. Orphan products are also exempt from PREA requirements.

The FDA also may require submission of REMS to ensure that the benefits of the biologic outweigh the risks. The REMS plan could include medication guides, physician communication plans, and elements to assure safe use, such as restricted distribution methods, patient registries, or other risk minimization tools. An assessment of the REMS must also be conducted at set intervals. Following product approval, a REMS may also be required by the FDA if new safety information is discovered, and the FDA determines that a REMS is necessary to ensure that the benefits of the biologic outweigh the risks.

BLA Approval and Post-Approval Requirements

BLA Submission and Review by the FDA

Assuming successful completion of all required testing in accordance with all applicable regulatory requirements, the results of product development, nonclinical studies, and clinical trials are submitted to the FDA as part of a BLA requesting approval to market the product for one or more indications. The BLA must include all relevant data available from pertinent preclinical and clinical studies, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product's chemistry, manufacturing, controls, and proposed labeling, among other things. Data can come from company-sponsored clinical studies intended to test the safety and effectiveness of a use of the product, or from a number of alternative sources, including studies initiated by investigators. The submission of a BLA requires payment of a substantial user fee to the FDA, under PDUFA, and the sponsor of an approved BLA is also subject to annual program fees. These fees are typically increased annually. A waiver of user fees may be obtained under certain limited circumstances.

Once a BLA has been submitted, the FDA has sixty days to determine whether it will accept the application for filing. The FDA accepts applications for filing if it determines that the application is substantially complete to permit a substantive review. The FDA may request additional information rather than accept a BLA for filing. In this event, the application must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review.

The FDA's goal is to review the application within ten months after it accepts the application for filing, or, if the application relates to a serious or life-threatening indication and, if approved, the product would provide a significant improvement in safety and efficacy, six months after the FDA accepts the application for filing, which is referred to as Priority Review. The review process is often significantly extended if the FDA requests additional information or clarification. The FDA reviews a BLA to determine, among other things, whether a product is safe, pure, and potent and the facility in which it is manufactured, processed, packed, or held meets standards designed to assure the product's continued safety, purity and potency. There are numerous FDA personnel assigned to review different aspects of a BLA, and uncertainties can be presented by their ability to exercise judgment and discretion during the review process. The development and provision of additional data and information requested by FDA during review of a BLA may be time consuming and expensive.

The FDA may convene an advisory committee to provide clinical insight on application review questions. Before approving a novel biologic, the FDA must either refer that biologic to an external advisory committee or provide, in an action letter, a summary of the reasons why the FDA did not refer the product candidate to an advisory committee. An advisory committee is typically a panel that includes clinicians and other experts, which review, evaluate, and make a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Before approving a BLA, the FDA will typically inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent commercial production of the product within required specifications. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to ensure compliance with cGCP.

If the FDA determines that the application, manufacturing process or manufacturing facilities are not acceptable, it will outline the deficiencies in the submission and often will request additional testing, clinical trials, application modifications, or information in a complete response letter, or CRL. A CRL indicates that the review cycle for the application is complete, and that the application is not ready for approval. If a CRL is issued, the applicant may either: resubmit the BLA, addressing all the deficiencies identified in the letter; withdraw the application; or request an opportunity for a hearing. Notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than an applicant interprets the same data.

If the FDA finds that a BLA is approvable, the FDA may issue an approval letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. However, even if the FDA approves a product, it may limit the approved indications for use of the product, require that contraindications, warnings, or precautions be included in the product labeling, including a boxed warning, require that post-approval studies, including Phase 4 clinical trials, be conducted to further assess a product's safety and efficacy after approval, require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution restrictions or other risk management mechanisms under a REMS which can materially affect the potential market and profitability of the product. The FDA may also not approve label statements that are necessary for successful commercialization and marketing.

If compliance with the pre-and post-marketing regulatory standards are not maintained or if problems occur after the product reaches the marketplace, the FDA may also withdraw the product approval. Further, should new safety information arise, additional testing, product labeling, or FDA notification may be required.

A sponsor may seek approval of its product candidate under programs designed to accelerate the FDA's review and approval of new drugs and biological products that meet certain criteria. Specifically, new drugs and biological products are eligible for Fast Track designation if they are intended to treat a serious or life-threatening condition and demonstrate the potential to address unmet medical needs for the condition. For a Fast Track designation, the FDA may consider sections of the BLA for review on a rolling basis before the complete application is submitted if relevant criteria are met. Fast Track-designated products are also eligible for more frequent FDA interactions. A Fast Track-designated product candidate may also qualify for Priority Review, under which the FDA sets the target date for FDA action on the BLA at six months after the FDA accepts the application for filing. Priority Review is granted when there is evidence that the proposed product would be a significant improvement in the safety or effectiveness of the treatment, diagnosis, or prevention of a serious condition. If criteria are not met for Priority Review, the application is subject to the standard FDA review period of 10 months after the FDA accepts the application for filing. Priority Review designation does not change the scientific/medical standard for approval or the quality of evidence necessary to support approval.

Under the Accelerated Approval Program, the FDA may approve a BLA on the basis of either a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. To qualify for Accelerated Approval, the product must be intended to treat a serious condition and must generally provide a meaningful advantage over available therapies. Post-marketing studies or completion of ongoing studies after marketing approval are required to verify the biologic's clinical benefit in relationship to the surrogate endpoint or ultimate outcome in relationship to the clinical benefit. If this clinical trial is not conducted, if it fails to verify the benefit, if other evidence demonstrates that the product is not safe, pure, or potent, or if the applicant disseminates false or misleading promotional material, the FDA may withdraw approval of the application on an expedited basis. Sponsors of products under the Accelerated Approval Pathway must further submit promotional materials to the FDA before dissemination.

In addition, the Food and Drug Administration Safety and Innovation Act, or FDASIA, which was enacted and signed into law in 2012, established the new Breakthrough Therapy Designation, or BTD. A sponsor may seek FDA designation of its product candidate as a Breakthrough Therapy if the product candidate is intended, alone or in combination with one or more other drugs or biologics, 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. Sponsors may request the FDA to designate a Breakthrough Therapy at the time of or any time after the submission of an IND, but ideally before an end-of-Phase 2 meeting with the FDA. If the FDA designates a Breakthrough Therapy, it may take actions appropriate to expedite the development and review of the application, which may include holding meetings with the sponsor and the review team throughout the development of the therapy; providing timely advice to, and interactive communication with, the sponsor regarding the development of the drug to ensure that the development program to gather the nonclinical and clinical data necessary for approval is as efficient as practicable; involving senior managers and experienced review staff, as

appropriate, in a collaborative, cross-disciplinary review; assigning a cross-disciplinary project lead for the FDA review team to facilitate an efficient review of the development program and to serve as a scientific liaison between the review team and the sponsor; and considering alternative clinical trial designs when scientifically appropriate, which may result in smaller clinical trials or more efficient clinical trials that require less time to complete and may minimize the number of patients exposed to a potentially less efficacious treatment. BTD also allows the sponsor to file sections of the BLA for review on a rolling basis.

Through the 21st Century Cures Act, or Cures Act, Congress also established another expedited program, called a Regenerative Medicine Advanced Therapy, or RMAT, designation. The Cures Act directs the FDA to facilitate an efficient development program for and expedite review of RMATs. To qualify for this program, the product must be a cell therapy, therapeutic tissue engineering product, human cell and tissue product, or a combination of such products, and not a product solely regulated as a human cell and tissue product. The product must be intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition, and preliminary clinical evidence must indicate that the product has the potential to address an unmet need for such disease or condition. Advantages of the RMAT designation include all the benefits of the Fast Track and breakthrough therapy designation programs, including early interactions with the FDA. These early interactions may be used to discuss potential surrogate or intermediate endpoints to support accelerated approval.

Post-Approval Requirements

Any products for which we receive FDA approvals are subject to continuing regulation by the FDA, including, among other things, record-keeping requirements, reporting of adverse experiences with the product and deviations, annual reporting and monitoring and providing the FDA with updated safety and efficacy information, product sampling and distribution requirements, certain electronic records and signature requirements, fulfilling post-marketing clinical trial and REMS commitments, and complying with FDA promotion and advertising requirements, which include, among other things, standards for direct-to-consumer advertising, restrictions on promoting products for uses or in patient populations that are not described in the product's approved uses or otherwise consistent with the FDA-approved product labeling (known as "off-label use"), limitations on industry-sponsored scientific and educational activities, rules regarding communication of health care economic information regarding biopharmaceutical products to payors and formularies, and requirements for promotional activities involving the internet. Although physicians may prescribe legally available products for off-label use, if they deem such use to be appropriate in their professional medical judgment, manufacturers may not market or promote such off-label uses. In the past several years, certain court decisions have impacted FDA's enforcement activity regarding off-label promotion in light of First Amendment considerations; however, there are still significant risks in this area, in part due to the potential for False Claims Act exposure.

In addition, quality control and manufacturing procedures must continue to conform to applicable manufacturing requirements after approval to ensure the long-term stability of the product. cGMP regulations require among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation and the obligation to investigate and correct any deviations from cGMP. Manufacturers and other entities involved in the manufacture and distribution of approved products are required to register their establishments and list their products with the FDA and certain state agencies and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP and other applicable laws. Accordingly, manufacturers must continue to expend time, money, and effort in the areas of production and quality control to maintain cGMP compliance. Discovery of problems with a product after approval may result in restrictions on a product, manufacturer, or holder of an approved BLA, including, among other things, withdrawal of approval, recall, or withdrawal of the product from the market. In addition, changes to the manufacturing process are strictly regulated, and depending on the significance of the change, may require prior FDA approval or notification before being implemented. Other types of changes to the approved product, such as adding new indications and claims to the product labeling, are also subject to further FDA review and approval.

Commercial products must meet the requirements of the Drug Supply Chain Security Act, or DSCSA, which imposes obligations on manufacturers of prescription biopharmaceutical products for commercial distribution, regulating the distribution of the products at the federal level, and sets certain standards for federal or state registration and compliance of entities in the supply chain, including manufacturers and repackagers, wholesale distributors, third-party logistics providers, and dispensers. The DSCSA preempts previously enacted state laws and the pedigree requirements of the Prescription Drug Marketing Act, or PDMA. Trading partners within the drug supply chain must now ensure certain product tracing requirements are met; that they are doing business with other authorized trading partners; and they are required to exchange transaction information, transaction history, and transaction statements. Product identifier information, an aspect of the product tracing scheme, is required. The DSCSA requirements, development of standards, and the system for product tracing have been and will continue to be phased in over a period of years, with the FDA indicating that it would permit certain exemptions and exclusions, and exercise enforcement discretion on certain aspects of the law due to the COVID-19 pandemic,

although this situation may continue to evolve. The distribution of product samples continues to be regulated under the PDMA, and some states also impose regulations on drug sample distribution.

As previously mentioned, the FDA may also require Phase 4 testing and surveillance to monitor the effects of an approved product. Discovery of previously unknown problems with a product or the failure to comply with applicable FDA requirements can have negative consequences, including adverse publicity, judicial or administrative enforcement, warning letters from the FDA, mandated corrective advertising or communications with doctors, and civil or criminal penalties, among others. Newly discovered or developed safety or effectiveness data may require changes to a product's approved labeling, including the addition of new warnings and contraindications, and may require the implementation of other risk management measures. Also, new government requirements, including those resulting from new legislation, may be established, or the FDA's policies may change, which could delay or prevent regulatory approval of our products under development.

Regulatory Designations

The FDA has granted ODD for lifileucel in the U.S. to treat malignant melanoma stages IIB-IV and for the treatment of cervical cancer with a tumor size of greater than 2 cm in diameter; Fast Track and RMAT designations for lifileucel to treat advanced metastatic melanoma; Fast Track and BTD for lifileucel to treat metastatic cervical cancer; and Fast Track designation for lifileucel in combination with pembrolizumab for the treatment of ICI naïve metastatic melanoma.

Orphan Drug Designations

During 2015, we received ODD for lifileucel in the U.S. to treat malignant melanoma stages IIB-IV, and in 2018, we received an ODD for lifileucel for the treatment of cervical cancer with a tumor size of greater than 2 cm in diameter. If approved, an ODD provides seven years of market exclusivity in the U.S., which means that the FDA may not approve any other applications, including a full BLA, to market the same biologic, as sameness is defined in the FDA's regulations, for the same indication for seven years, subject to certain limited exceptions. However, an ODD does not convey any advantage in, or shorten the duration of, the regulatory review or approval process. The benefits and limitations of ODD are described in more detail under the Government Regulations section in this Annual Report on Form 10-K.

Fast Track Designations

In August 2017, we announced that the FDA had granted Fast Track designation for lifileucel for the treatment of advanced metastatic melanoma. In February 2019, we announced that the FDA had granted Fast Track designation for lifileucel in the treatment of metastatic cervical cancer. Additionally, in November 2021, we announced that the FDA granted Fast Track designation for lifileucel in combination with pembrolizumab for the treatment of ICI-naïve metastatic melanoma. The FDA's Fast Track process is designed to facilitate the development and expedite the review of drugs that treat serious conditions and fill an unmet medical need. Fast Track designation allows more frequent meetings and communications with the FDA to discuss the drug's development plans and review process. The Fast Track designation also allows for the possibility for rolling review of a BLA by FDA, where the FDA may consider beginning review portions of a marketing application before the full submission is complete, and also potential eligibility if certain criteria are met for accelerated approval.

Regenerative Medicine Advanced Therapy Designation

In October 2018, we announced that the FDA had granted RMAT designation for lifileucel for the treatment of patients with metastatic melanoma. The RMAT designation is based on data provided to the FDA from our C-144-01 trial. RMAT designation is granted for regenerative medicine drugs and allows for increased access to FDA during development. Under this designation, surrogate endpoints can be used to receive approval for a product, accelerated approval may be granted, and a rolling review of a BLA may be permitted by FDA.

Breakthrough Therapy Designation

In May 2019, we announced that the FDA had granted BTD for lifileucel for the treatment of patients with metastatic cervical cancer. The BTD was granted based on data provided to the FDA from our C-145-04 clinical trial. Under a BTD, the FDA may take actions that help expedite the development and review of the application for a product candidate, including seeking to provide timely advice and interactive communications to the sponsor with intensive guidance during development, to help the sponsor design and

conduct a more efficient development program. Product candidates with BTD may be suitable for alternative clinical trial designs when scientifically appropriate, which may result in smaller clinical trials or more efficient clinical trials that require less time to complete. BTD also allows the sponsor to submit portions of the BLA on an ongoing basis for rolling review. In addition, BTD status allows for the potential to request priority review of our BLA at the time of BLA submission if supported by clinical data. The clinical evidence needed to support breakthrough designation is preliminary, and the FDA has authority to rescind a BTD if a product candidate no longer meets the qualifying criteria.

Orphan Drugs

Under the Orphan Drug Act, the FDA may grant ODD to a drug or biologic intended to treat a rare disease or condition, defined as a disease or condition with a patient population of fewer than 200,000 individuals in the U.S., or a patient population greater than 200,000 individuals in the U.S. and when there is no reasonable expectation that the cost of developing and making available the drug or biologic in the U.S. will be recovered from sales in the U.S. for that drug or biologic. Additionally, sponsors must present a plausible hypothesis for clinical superiority to obtain ODD if there is a product already approved by the FDA that is intended for the same indication and that is considered by the FDA to be the same product as the already approved product. This hypothesis for clinical superiority must be demonstrated to obtain orphan exclusivity. ODD must be requested before submitting a BLA. After the FDA grants ODD, the generic identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA.

If a product that has ODD subsequently receives the first FDA approval for a particular active ingredient for the disease for which it has such designation, the product is entitled to orphan product exclusivity, a seven-year period of marketing exclusivity, which means that the FDA may not approve any other applications, including a full BLA, to market the same biologic, as sameness is defined in the FDA's regulations, 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 if the FDA finds that the holder of the orphan drug exclusivity has not shown that it can assure the availability of sufficient quantities of the orphan drug to meet the needs of patients with the disease or condition for which the drug was designated. Orphan drug exclusivity does not prevent the FDA from approving a different drug or biologic for the same disease or condition, or the same drug or biologic for a different disease or condition. Among the other benefits of ODD are tax credits for certain research, opportunities for certain research grant funding, and a waiver of the BLA application fees. The tax credit, however, was recently limited through Congress's tax reform efforts. Despite these benefits, the ODD does not convey any advantage in, or shorten the duration of, the regulatory review or approval process.

A designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, orphan drug exclusive marketing rights in the U.S. may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition. The FDA may also approve a product deemed to be the same as an approved orphan product for the same orphan indication, despite periods of exclusivity, if the new product is demonstrated to be clinically superior to the former product.

We plan to seek ODD for some or all of our product candidates in specific orphan indications in which there is a medically plausible basis for the use of such products.

Market and Data Exclusivity and Biosimilars

While under the Biologics Price Competition and Innovation Act of 2009, or BPCIA, the FDA may eventually license products, as further described below, that are biosimilar to any of our product candidates that are approved, our products may receive periods of regulatory exclusivity, separately from orphan drug exclusivity for those products with ODDs, providing additional protection from certain forms of competition. For instance, our products may receive 12 years of reference product exclusivity that begins running at the time of first licensure. During this 12-year time period, the period of marketing exclusivity, the FDA may not make an approval of a biosimilar product effective. In addition, the FDA may not accept a biosimilar application until after four years from the date of first licensure, the period of data exclusivity. However, certain changes and supplements to an approved BLA, and subsequent applications filed by the same sponsor, manufacturer, licensor, predecessor in interest, or other related entity do not qualify for the exclusivity period. The PHSA also includes provisions governing patent litigation over patents that are directed to the reference products. The biosimilar product sponsor and reference product sponsor may, but are not required to, exchange certain patent and product information for the purpose of negotiating and determining the scope of patent litigation, including the patents to be asserted and challenged. Based on the outcome of negotiations surrounding the exchanged information, the reference product sponsor may bring a patent infringement suit

and injunction proceedings against the biosimilar product sponsor. The biosimilar applicant may also be able to bring an action for declaratory judgment concerning the patent under certain circumstances.

The BPCIA created an abbreviated approval pathway for biological products shown to be highly similar to or interchangeable with an FDA-licensed reference biological product. Accordingly, if we receive FDA licensure, we may face competition from biosimilar products. Biosimilarity sufficient to reference a prior FDA-approved product requires a high similarity to the reference product notwithstanding minor differences in clinically inactive components, and no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency. Biosimilarity must be shown through analytical studies, animal studies, and at least one clinical trial, absent a waiver by the FDA. There must be no difference between the reference product and a biosimilar in conditions of use, route of administration, dosage form, and strength. Further, a biosimilar product may be deemed interchangeable with a prior approved product if it meets the higher hurdle of demonstrating that it can be expected to produce the same clinical results as the reference product and, for products administered multiple times, the biologic and the reference biologic may be switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic.

Pediatric Exclusivity and Patent Term Extension

Pediatric exclusivity is another type of non-patent marketing exclusivity in the U.S. and, if granted, provides for the attachment of an additional six months of marketing protection to the term of any existing regulatory exclusivity. Under the Best Pharmaceuticals for Children Act, a six-month exclusivity may be granted if a sponsor submits pediatric data that fairly responds to a written request from the FDA for such data. The FDA may issue such a written request on its own initiative or at the request of the sponsor. The data do not need to show the product to be effective in the pediatric population studied; rather, if the clinical trial is deemed to fairly respond to the FDA's request, the additional protection is granted. If reports of requested pediatric studies are submitted to and accepted by the FDA, whatever regulatory periods of exclusivity that already cover the product are extended by six months. Pediatric exclusivity is thus an "add-on" exclusivity and is unique in this regard among the various regulatory exclusivities provided by FDA. The FDA can also require pediatric studies of a drug submitted in a new drug application if the FDA determines that the product is likely to be used in a substantial number of pediatric patients, or if the product would provide a meaningful benefit in the pediatric population over existing treatments. This requirement may be waived in certain circumstances, for example, where the indication does not occur or is not highly prevalent in the pediatric population.

If approved, biologics may also be eligible for periods of U.S. patent term restoration. If granted, patent term restoration extends the patent life of a single unexpired patent that has not previously been extended, for a maximum of five years. The total patent life of the product with the extension also cannot exceed fourteen years from the product's approval date. Subject to the prior limitations, the period of the extension is calculated by adding half of the time from the effective date of an IND to the initial submission of a marketing application, and all the time between the submission of the marketing application and its approval. This period may also be reduced by any time that the applicant did not act with due diligence. Whether any of our product candidates will be eligible for patent term restoration is currently unknown. Even if any of our product candidates are found to be eligible for patent term protection, the applicable authorities may subsequently determine that we are not eligible for such restoration periods.

Additional Biologic Requirements

To help reduce the increased risk of the introduction of adventitious agents, the PHSA emphasizes the importance of manufacturing controls for products whose attributes cannot be precisely defined. The PHSA also provides authority to the FDA to immediately suspend licenses in situations where there exists a danger to public health, to prepare or procure products in the event of shortages and critical public health needs, and to authorize the creation and enforcement of regulations to prevent the introduction or spread of communicable diseases in the U.S. and between states.

After a BLA is approved, the product may also be subject to official lot release as a condition of approval. As part of the manufacturing process, the manufacturer is required to perform certain tests on each lot of the product before it is released for distribution. If the product is subject to official release by the FDA, the manufacturer submits samples of each lot of product to the FDA, together with a release protocol showing the results of all the manufacturer's tests performed on the lot. The FDA may also perform certain confirmatory tests on lots of some products before releasing the lots for distribution by the manufacturer.

In addition, the FDA conducts laboratory research related to the regulatory standards on the safety, purity, potency, and effectiveness of biological products. After approval of biologics, manufacturers must address any safety issues that arise, are subject to recalls or a halt in manufacturing, and are subject to periodic inspection after approval.

Other Healthcare Laws and Compliance Requirements

Our sales, promotion, medical education, and other activities following product approval are subject to regulation by numerous federal, state, and local regulatory and law enforcement authorities in the U.S., and in addition to the FDA, these entities may include the Federal Trade Commission, or the FTC; the Department of Justice; the Centers for Medicare & Medicaid Services, or CMS; other divisions of the Department of Health and Human Services; and state and local governments. Our promotional and scientific/educational programs must comply with laws and regulations such as the federal Anti-Kickback Statute, or AKS; the civil monetary penalties statute, or the CMP Law; the Foreign Corrupt Practices Act, or the FCPA; the False Claims Act, or the FCA; the Veterans Health Care Act, or the VHCA; physician payment transparency laws; privacy and security laws; and other federal, state, and local laws similar to the foregoing.

The federal AKS prohibits, among other things, any person or entity, from knowingly and willfully offering, paying, soliciting, or receiving any remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or in return for purchasing, leasing, ordering, or arranging for the purchase, lease, or order of any item or service reimbursable under Medicare, Medicaid, or other federal healthcare programs, in whole or in part. The term remuneration has been interpreted broadly to include anything of value. The federal AKS has been interpreted broadly to apply to arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers, and formulary managers on the other. The term “remuneration” includes kickbacks, bribes, or rebates, and also has been broadly interpreted to include anything of value, including, for example, gifts, discounts, waivers of payment, ownership interest, and providing anything at less than its fair market value. Additionally, the intent standard under the federal AKS provides that a person or entity need not have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, a claim including items or services resulting from a violation of the federal AKS constitutes a false or fraudulent claim for purposes of the federal civil FCA. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution or other regulatory sanctions. The exceptions and safe harbors are drawn narrowly, and practices that involve remuneration that may be alleged to be intended to induce prescribing, purchasing, or recommending may be subject to scrutiny if they do not qualify for an exception or safe harbor. Failure to meet all the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the AKS. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all such arrangement’s facts and circumstances. Our practices may not in all cases meet all the criteria for protection under a statutory exception or regulatory safe harbor. The exceptions and safe harbors are subject to change through legislative and regulatory action, are also subject to changes in interpretation and application by government agencies and courts, and we may decide to adjust our business practices from time to time.

The CMP Law establishes penalties that may be assessed against any person or entity who, among other things, is determined to have presented or caused to be presented a claim for payment, or approval, to a federal healthcare program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent.

The FCA prohibits any persons from, among other things, knowingly presenting or causing to be presented false or fraudulent claims for payment to, or approval by the government, knowingly making or using, or causing to be made or used a false statement or record material in a claim to the government, or avoiding, decreasing, or concealing an obligation to pay money to the government. A claim includes “any request or demand” for money or property presented directly or indirectly to the federal government. The civil FCA has been or might be used to assert liability on the basis of kickbacks and other improper referrals, improperly reported government pricing metrics such as Best Price and Average Manufacturer Price, improper promotion of uses not expressly approved by the FDA in a drug’s label, false statements associated with government grants, and allegations of misrepresentations with respect to services rendered, as well as claims for payment that are inaccurate or fraudulent, that are for services not provided as claimed, or for services that are not medically necessary. FCA claims might be based on noncompliance with regulatory requirements under an implied certification theory if material to the government’s decision to buy or pay for a drug. Intent to deceive is not required to establish liability under the civil FCA. Civil FCA liability may also be imposed for Medicare or Medicaid overpayments caused by understated rebate amounts that are not refunded within 60 days of discovering the overpayment, even if the overpayment was not caused by a false or fraudulent act. Actions under the FCA may be brought by the government or as a qui tam action by a private individual in the name of the government. If the government intervenes in a qui tam action, and prevails, the qui tam plaintiff will share in the proceeds from damages and fines or settlement funds. If the government declines to intervene, the qui tam plaintiff may pursue the case alone. Violations of the FCA can result in significant monetary penalties and treble damages. The government may further prosecute conduct

under the criminal FCA, which prohibits the making or presenting of a claim to the government knowing the claim to be false, fictitious or fraudulent. Unlike the civil FCA, conviction requires proof of intent to submit a false claim. In addition, federal AKS violations (which may be alleged based on certain marketing practices, including allegations of off-label promotion) might implicate the FCA.

The compliance and enforcement landscape, and related risk, is informed by government regulatory, enforcement, and other activities, such as litigation and settlement precedent, advisory opinions, and special fraud alerts. Our approach to compliance may evolve over time in light of these types of developments.

Additionally, the FCPA, and similar worldwide anti-bribery laws, generally prohibit companies and their intermediaries from making, offering, or authorizing improper payments or other items of value, directly or indirectly, to foreign officials, political parties, or candidates for the purpose of obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the U.S. to comply with accounting provisions requiring us 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. Activities that violate the FCPA, even if they occur wholly outside the U.S., can result in criminal and civil fines, imprisonment, disgorgement, oversight, and debarment from securing government contracts. We cannot assure you that our internal control policies and procedures will protect us from reckless or negligent acts committed by our employees, future distributors, partners, collaborators or agents. Violations of these laws, or allegations of such violations, could result in fines, penalties or prosecution and have a negative impact on our business, results of operations and reputation.

Payment or reimbursement of prescription drugs by Medicaid or Medicare requires manufacturers of the drugs to submit pricing information to CMS. The Medicaid Drug Rebate statute requires manufacturers to calculate and report price points, which are used to determine Medicaid rebate payments shared between the states and the federal government and Medicaid payment rates for the drug. For drugs paid under Medicare Part B, manufacturers must also calculate and report their Average Sales Price or ASP, which is used to determine the Medicare Part B payment rate for the drug. Drugs that are approved under a BLA or a New Drug Application, or NDA, including 505(b)(2) drugs, are subject to an additional inflation penalty which can substantially increase rebate payments. In addition, for BLA and NDA drugs, the VHCA requires manufacturers to calculate and report to the Veterans Administration, or VA, a different price called the Non-Federal Average Manufacturing Price, which is used to determine the maximum price that can be charged to certain federal agencies, referred to as the Federal Ceiling Price, or FCP. Like the Medicaid rebate amount, the FCP includes an inflation penalty. A Department of Defense regulation requires manufacturers to provide this discount on drugs dispensed by retail pharmacies when paid by the TRICARE Program. All these price reporting requirements create the risk of submitting false information to the government, and potential FCA liability.

The VHCA also requires manufacturers of covered drugs participating in the Medicaid program to enter into Federal Supply Schedule contracts with the VA through which their covered drugs must be sold to certain federal agencies at FCP and to report pricing information. This necessitates compliance with applicable federal procurement laws and regulations and subjects us to contractual remedies as well as administrative, civil, and criminal sanctions. In addition, the VHCA requires manufacturers participating in Medicaid to agree to provide different mandatory discounts to certain Public Health Service grantees and other safety net hospitals and clinics.

The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal and civil penalties, prohibits, among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud or to obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of whether the payor is public or private third-party, knowingly and willfully embezzling or stealing from a health care benefit program, willfully obstructing a criminal investigation of a health care offense, and knowingly and willfully falsifying, concealing, or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items, or services relating to healthcare matters. A person or entity does not need to have actual knowledge of the statute, or the specific intent to violate it, to have committed a violation.

We may also be subject to data privacy and security laws and regulation by both the federal government and the states in which we conduct our business. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or the HITECH Act, and their respective implementing regulations, including as such regulations were amended by the final omnibus rule published on January 25, 2013, and subsequent rulemaking, imposes specific requirements relating to the privacy, security, and transmission of individually identifiable health information held by covered entities and their business associates. While we would not be a “covered entity” under HIPAA, it is possible that we may enter into a service or business arrangement that would cause us to serve as a “business associates,” defined as a person or entity that performs certain functions or activities that involve the use or disclosure of protected health information in connection with providing a service for or on behalf of, or provide services to, a covered entity. The

HITECH Act also increased the civil and criminal penalties that may be imposed against covered entities, business associates, and possibly other persons and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys' fees and costs associated with pursuing federal civil actions. In addition, state laws govern the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect. The Department of Health and Human Services Office of Civil Rights, or the OCR, has increased its focus on compliance and continues to train state attorneys general for enforcement purposes.

Even for entities that are not deemed "covered entities" or "business associates" under HIPAA, according to the FTC, failing to take appropriate steps to keep consumers' personal information secure constitutes unfair acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act, or the FTCA, 15 USC § 45(a). The FTC expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business, and the cost of available tools to improve security and reduce vulnerabilities. Medical data is considered sensitive data that merits stronger safeguards. The FTC's guidance for appropriately securing consumers' personal information is similar to what is required by the HIPAA Security Rule.

In addition to the laws discussed above, we may see more stringent state and federal privacy legislation in 2025 and beyond, as a continued increase in cyber-attacks have heightened attention to data privacy and security in the U.S. and other jurisdictions. We cannot predict where new legislation might arise, the scope of such legislation, or the potential impact to our business and operations.

Payments made to physicians and other healthcare providers, and other financial interests, have been the subject of a range of federal and state laws. The federal physician payment transparency requirements, sometimes referred to as the Physician Payments Sunshine Act, or the Sunshine Act, was created under the Patient Protection and Affordable Care Act, or the ACA, and implemented as the Open Payments Program. The Sunshine Act, among other things, imposes reporting requirements on drug manufacturers for payments or other transfers of value made by them to physicians and teaching hospitals, as well as ownership and investment interests held by physicians, other healthcare providers, and their immediate family members. Failure to submit required information may result in civil monetary penalties of up to an aggregate of $150,000 per year and up to an additional aggregate of $1 million per year for "knowing failures," for all payments, transfers of value, or ownership or investment interests that are not timely, accurately, and completely reported in an annual submission. The Sunshine Act requires applicable manufacturers to track payments and transfers of value to physicians, physician assistants, nurse practitioners, and other mid-level HCPs. Additionally, certain states also mandate implementation of commercial compliance programs, impose restrictions on drug manufacturer marketing practices and/or require the tracking and reporting of gifts, compensation, and other remuneration to physicians and other HCPs.

Analogous state laws and regulations, such as state anti-kickback and false claims laws, and other state laws addressing the pharmaceutical and healthcare industries, which may apply to items or services reimbursed by any third-party payor, including commercial insurers, and in some cases, may apply regardless of payor, i.e., even if reimbursement is not available. Some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines, known as the Pharmaceutical Research and Manufacturers of America Code, and the relevant compliance program guidance promulgated by the federal government in addition to requiring drug manufacturers to report pricing and marketing information, including, among other things, information related to gifts, payments, or other remuneration to physicians and other healthcare providers or marketing expenditures, state and local laws that require the registration of pharmaceutical sales representatives, and state laws governing the privacy and security of health information and the use of prescriber-identifiable data in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts. For example, California enacted the California Consumer Privacy Act, or CCPA, which went into effect on January 1, 2020, and was subsequently amended and expanded by the California Privacy Rights Act, or CPRA, passed on November 3, 2020. The CPRA's substantive provisions took full effect as of January 1, 2023, including the CPRA's expansion of the "Right to Know" that impacts personal information collected on or after January 1, 2022. The CCPA and CPRA, among other things, create new data privacy obligations for covered companies and provide new privacy rights to California residents, including the right to opt out of certain disclosures of their information. The CCPA also created a private right of action with statutory damages for certain data breaches, thereby potentially increasing risks associated with a data breach. It remains unclear what, if any, additional modifications will be made to the CCPA and CPRA by the California legislature or how they will be interpreted. Therefore, the effects of the CCPA and CPRA are significant and will likely require us to modify our data processing practices and may cause us to incur substantial costs and expenses to comply. Since the passage of the CCPA, certain other states have passed similar laws that may also have similar impacts on our data processing practices and incurred costs. Some of these state laws have not taken effect, and we cannot predict if states will subsequently amend those laws, if other states will pass similar laws, or the costs and expenses that we will incur to comply with such laws.

To the extent that any of our products are sold in a foreign country, we may be subject to similar foreign laws and regulations, which may include, for instance, applicable post-marketing requirements, including safety surveillance, anti-fraud and abuse laws, and implementation of corporate compliance programs and reporting of payments or transfers of value to HCPs.

Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available under such laws, it is possible that certain business activities could be subject to challenge under one or more of such laws. 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 that business arrangements with third parties comply with applicable healthcare laws, as well as responding to possible investigations by government authorities, can be time- and resource-consuming and can divert management's attention from the business.

If our operations are found to be in violation of any of such health regulatory laws described above or any other governmental laws and regulations that apply to us, we may be subject to penalties, including, without limitation, civil, administrative, and criminal penalties, damages, fines, disgorgement, the curtailment or restructuring of our operations, exclusion from participation in federal and state healthcare programs, individual imprisonment, injunctions, private qui tam actions brought by individual whistleblowers in the name of the government, 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 of which could adversely affect our ability to operate our business and our financial results.

Coverage and Reimbursement

Sales of pharmaceutical products depend significantly on the availability of third-party coverage and reimbursement. Third-party payors include Medicare, Medicaid, and other government programs at the federal and state level, managed care entities, private health insurers, and other organizations. Third party payors decide which drugs they will pay for on behalf of their beneficiaries and establish reimbursement levels for health care services and products. Although we currently believe that third-party payors will provide coverage and reimbursement for our products and product candidates, if approved, these third-party payors are increasingly challenging the price and examining the cost-effectiveness of medical products and services, with a recent focus on prioritization of “equivalent,” less expensive alternatives when available. In addition, significant uncertainty exists as to the reimbursement status of newly approved healthcare products. We may need to conduct expensive clinical trials to demonstrate the comparative cost-effectiveness of our products. The products and product candidates that we develop may not be considered cost-effective. It is time-consuming and expensive for us to seek coverage and reimbursement from third-party payors. Moreover, a payor’s decision to provide coverage for a drug product does not imply that an adequate reimbursement rate will be approved, especially for products and product candidates such as ours, which are used in the inpatient setting, usually resulting in no separate reimbursement for pharmaceuticals. There are additional pressures on pricing as a result of other, peripheral policies impacting reimbursement across both government and private payors. Non-health specific policies may impart downstream impacts on private insurance reimbursement decision-making. In consideration of these numerous factors, reimbursement may not be available or sufficient to allow us to sell our products on a competitive and profitable basis.

Medicare is a federally funded program managed by CMS through local contractors that administer coverage and reimbursement for certain healthcare items and services furnished to the elderly and disabled. Medicare “Part A” covers inpatient hospitalization and certain other settings, and Medicare “Part B” covers outpatient medical services, including limited outpatient prescription drugs. Medicare coverage of drugs and biological products and payment rates to providers are established by federal law and regulations. Medicaid is an insurance program for certain categories of low-income people, families and children, pregnant people, elderly people, and people with disabilities, and is both federally and state funded and managed by each state. The federal government sets general guidelines for Medicaid and requires rebates on outpatient drugs and biological products, including those administered by physicians if the cost is billed separately. Each state creates specific regulations that govern its individual program, including supplemental rebate programs that prioritize coverage for drugs on the state Preferred Drug List. Government laws and regulations also establish price controls on prescription drugs purchased by government agencies that provide health care and certain federally funded hospital outpatient departments and clinics. In the U.S., private health insurers and other third-party payors often provide reimbursement for products and services based on the level at which the government provides reimbursement through the Medicare or Medicaid programs for such products and services. These restrictions and limitations influence the purchase of health care services and products. In addition, government programs like Medicaid include substantial penalties for increasing commercial prices over the rate of inflation, which can affect realization and return on investment.

In the U.S., Europe, and other potentially significant markets for our products and product candidates, government authorities and private third-party payors are increasingly attempting to limit or regulate the price of medical products and services, particularly for new and innovative products and therapies, which often has resulted in average selling prices lower than they would otherwise be. Manufacturers frequently must rebate a portion of the prescription price to the third-party payors as a condition of coverage, which can greatly reduce realization on the sale. Third-party payors are increasingly challenging the price and examining the medical necessity and cost-effectiveness of medical products and services, in addition to their safety and efficacy, and are developing increasingly sophisticated methods of controlling healthcare costs. They may limit coverage to specific drug products on an approved list, or formulary, which might not include all the FDA-approved drug products for a particular indication, or they may control costs, particularly for new expensive therapies, by requiring prior authorization or imposing other restrictions before covering certain products, or they may condition payment based on achieving performance metrics. Legislative proposals to reform healthcare or reduce costs under government programs may result in lower reimbursement for our products and product candidates or exclusion of our products and product candidates from coverage.

Achieving favorable CMS coverage and reimbursement is usually a significant gating issue for successful introduction of a new product because Medicare and Medicaid can represent a sizeable share of the market and because private payors often rely on the lead of the governmental payors in rendering coverage and reimbursement determinations. Further, the increased emphasis on managed healthcare in the U.S. and on country and regional pricing and reimbursement controls in Europe will likely put additional pressure on product pricing, reimbursement, and utilization, which may adversely affect our future product sales and results of operations. These pressures can arise from rules and practices of managed care entities, competition within therapeutic classes, availability of generic equivalents, judicial decisions and governmental laws and regulations related to Medicare, Medicaid, and healthcare reform, pharmaceutical coverage and reimbursement policies, and pricing in general. Patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Sales of our products and product candidates will therefore depend substantially, both domestically and abroad, on the extent to which the costs of our products will be paid by health maintenance, managed care, pharmacy benefit, and similar healthcare management organizations, or reimbursed by government health administration authorities, such as Medicare and Medicaid, private health insurers, and other third-party payors.

As a result of the above, we may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of our products, in addition to the costs required to obtain FDA approvals. Our products and product candidates may not be considered medically necessary or cost-effective. A payor's decision to provide coverage for a drug product does not imply that an adequate reimbursement rate will be approved. Adequate third-party reimbursement may not be available to ensure acceptance and use of our products and product candidates or enable us to maintain price levels sufficient to realize an appropriate return on our investment in drug development. Legislative and regulatory proposals to reform healthcare or reduce costs under government insurance programs may result in lower reimbursement for our products and product candidates or exclusion of our products and product candidates from coverage. The cost containment measures that healthcare payors and providers are instituting and any healthcare reform could significantly reduce our revenues from the sale of products and any approved product candidates. We cannot provide any assurances that we will be able to obtain and maintain third-party coverage or adequate reimbursement for our products and product candidates in whole or in part.

Healthcare Reform

The U.S. and some foreign jurisdictions are considering enacting or have enacted a number of legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell our products profitably. Among policy makers and payors in the U.S. and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access. In the U.S., the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major federal and state legislative initiatives.

In addition, other legislative and regulatory changes have been proposed and adopted since the ACA was enacted. These changes include aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, starting in 2013, which will remain in effect through 2032 unless additional Congressional action is taken. In January 2013, the American Taxpayer Relief Act of 2012, which, among other things, further reduced Medicare payments to several providers, including hospitals and cancer treatment centers, increased the statute of limitations period for the government to recover overpayments to providers from three to five years. In 2017, CMS promulgated a rule reducing Medicare Part B reimbursement to hospitals for drugs purchased under the 340B program by 30%. Following an adverse U.S. Supreme Court decision, however, CMS subsequently modified its policies to restore certain payments owed to hospitals and to restore the reimbursement to the full, applicable rate going forward.

In recent years, there have been and continue to be proposals by the federal government, state governments, regulators, and third-party payors to control these costs and, more generally, to reform the U.S. health care system. Certain of these proposals could limit the prices we are able to charge for our products or the amounts of reimbursement available for our products. These laws and future laws may result in additional reductions in Medicare and other healthcare funding, which could have a material adverse effect on customers for our products and product candidates, if approved, and, accordingly, our financial operations.

Any reduction in reimbursement from Medicare or other government-funded programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability or commercialize our drugs.

The cost of pharmaceuticals continues to generate substantial governmental and third-party payor interest and states have begun to take action to increase transparency in drug pricing through mandatory reporting requirements. We expect that the pharmaceutical industry will experience pricing pressures due to the trend toward managed healthcare, the increasing influence of managed care organizations, and additional legislative proposals. Our results of operations could be adversely affected by current and future healthcare reforms. While we cannot predict whether any proposed cost-containment measures will be adopted or otherwise implemented in the future, the announcement or adoption of these proposals could have a material adverse effect on our ability to obtain adequate prices for our products and product candidates and operate profitably.

Foreign Regulation

In addition to regulations in the U.S., we will be subject to a variety of foreign regulations governing clinical trials and commercial sales and distribution of our products to the extent we choose to develop or sell any products outside of the U.S. The approval process varies from country to country and the time may be longer or shorter than that required to obtain FDA approval. The requirements governing the conduct of clinical trials, product licensing, pricing, and reimbursement vary greatly from country to country.

In the EU and the UK, both regulatory clearances by the national competent authority and a favorable ethics committee opinion are required prior to the commencement of a clinical trial. In the EU/European Economic Area, or EEA, Regulation (EU) 536/2014 on clinical trials, or CTR, requires the sponsor to submit a single clinical trial application, or CTA, through the Clinical Trials Information System, or the CTIS, an online portal to streamline the authorization process. While under the previously applicable Directive 2001/20/EC, or CTD, sponsors had to request separate approvals in each EU/EEA member state, the CTIS is a single-entry point that allows sponsors to apply for authorization to run a clinical trial in up to 30 EU/EEA countries. The CTIS authorization procedure is composed of two parts: (i) member states jointly cooperate during the Part I assessment of the applicable CTA and (ii) during Part II, the applicable CTA is assessed by each member state individually. All ongoing clinical trials in the EU/EEA were required to transition to the CTIS by January 30, 2025. This date marked the end of a three-year transition period that began when the CTR became applicable. Following the UK's departure from the EU, the CTR does not apply in the UK with the applicable rules currently being based largely on those set out in the CTD as have been implemented nationally via the Medicines for Human Use (Clinical Trials) Regulation 2004, as amended. However, new UK legislation was laid before Parliament in December 2024 which will update the existing regulations, and which aims to provide a more efficient, streamlined, and adaptable regulatory framework for clinical trials. Once made into law, the new legislation will come into force following a 12-month implementation period to ensure readiness.

Under the EU regulatory systems, in addition to using national authorization procedures (leading to a marketing authorization only valid in the relevant EU/EEA member state), an MAA may be submitted under the (i) centralized authorization procedure, (ii) mutual recognition procedure, or (iii) decentralized procedure. The centralized procedure provides for the grant of a single marketing authorization valid across all EU/EAA member states. This procedure is mandatory for certain medicines, optional for others, and not available for the rest. For example, the centralized authorization procedure is compulsory for medicines produced by certain biotechnological processes. Because our products are produced in that way, we would be subject to the centralized authorization procedure. Under the centralized procedure, pharmaceutical companies submit a single MAA to the European Medicines Agency, or the EMA. The application is reviewed by the Committee for Medicinal Products for Human Use, which issues a scientific opinion. The EMA then forwards this scientific opinion to the European Commission, which is responsible for deciding whether to grant the marketing authorization. Once granted by the European Commission, a centralized marketing authorization is valid in all EU member states, as well as the EEA countries. By law, a company can only start to market a medicine once it has received a marketing authorization.

Employees and Human Capital Management

As of December 31, 2024, we had 838 employees, 670 of whom were engaged in research and development, and commercial manufacturing activities, and 168 of whom were engaged in general and administrative support activities. None of our employees are subject to a collective bargaining agreement. Our employees are highly skilled, and many hold advanced degrees. Most of our employees have experience with the development of cell therapies. We consider our relationship with our employees to be good. Our future performance depends significantly upon the continued service of our key scientific, technical and senior management personnel and our continued ability to attract and retain highly skilled employees. We provide our employees with competitive salaries and bonuses, opportunities for equity ownership, development programs that enable continued learning and growth, career opportunities, and a robust employment package that promotes well-being across all aspects of their lives. In addition to salaries, these programs include potential annual discretionary bonuses, stock awards, Employee Stock Purchase Plan, a 401(k) plan, healthcare and insurance benefits, health savings and flexible spending accounts, paid time off, family leave, and flexible work schedules, among other benefits. We may take further actions, in compliance with all appropriate government regulations, that we determine to be in the best interest of our employees.

Available Information

We maintain a website at www.iovance.com and make available there, free of charge, our periodic reports filed with the U.S. Securities and Exchange Commission, or SEC, as soon as is reasonably practicable after filing. The SEC maintains a website at http:/www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers such as us that file electronically with the SEC.

Item 1A. Risk Factors

The risks described below may not be the only ones relating to our company. Additional risks that we currently believe are immaterial may also impair our business operations. Our business, financial conditions and future prospects and the trading price of our common stock could be harmed as a result of any of these risks. Investors should also refer to the other information contained or incorporated by reference in this Annual Report on Form 10-K, including our financial statements and related notes, and our other filings from time to time with the SEC.

Risk Factors Summary

Our business is subject to a number of risks and uncertainties, including those risks discussed at length below. These risks include, among others, the brief bulleted list of our principal risk factors set forth below that make an investment in our company speculative or risky. You are encouraged to carefully review our full discussion of the material risk factors relevant to an investment in our business, which follows the brief bulleted list of our principal risk factors set forth below.

Risks Related to Our Business:

- We have a history of operating losses; we expect to continue to incur losses, and we may never be profitable;
- We may need additional financing to fund our operations and complete the development of our various product candidates and commercialization of our products, and if we are unable to obtain such financing, we may be unable to complete the development of our product candidates and commercialization of our products. 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;
- The manufacture of our products and product candidates is complex, and we may encounter difficulties in production, particularly with respect to process development, quality control, or scaling-up of our manufacturing capabilities. If we, or any of our third-party manufacturers encounter such difficulties, our ability to provide supply of our product candidates for clinical trials or our products for patients could be delayed or stopped, or we may be unable to maintain a commercially viable cost structure;
- Cell-based therapies and biologics rely on the availability of biological raw materials (including live cells), chemicals and agents used for manufacturing, reagents, specialized equipment, and other specialty materials, which may not be available to us on acceptable terms or at all. For each of these, we rely or may rely on treatment sites, limited manufacturers, sole source vendors, or a limited number of vendors, which could impair our ability to manufacture and supply our products;
- Because our current products represent, and our other potential product candidates will represent novel approaches to the treatment of disease, there are many uncertainties regarding the development, the market acceptance, third-party reimbursement coverage, and the commercial potential of our product candidates;

- No assurance can be given that the Gen 2 manufacturing process or other processes we have selected will be FDA-compliant or more efficient and will lower the cost to manufacture TIL products;
- We face significant competition from other biotechnology and pharmaceutical companies and from non-profit institutions;
- Our projections regarding the market opportunities for our products and product candidates may not be accurate, and the actual market for our products and product candidates may be smaller than we estimate;
- We have limited commercial experience and may be unable to establish effective marketing and sales capabilities or enter into agreements with third parties to market and sell our products and product candidates, if they are approved, and as a result, we may be unable to generate significant product awareness, and the lack of awareness may limit the revenues that we generate;
- If our products or product candidates do not achieve broad market acceptance, the revenues that we generate from their sales will be limited;
- Our products and product candidates may face competition sooner than anticipated;
- As a condition of approval, the FDA and foreign regulatory authorities may require that we implement various post-marketing requirements and conduct post-marketing studies, any of which would require a substantial investment of time, effort, and money, and which may limit our commercial prospects;
- We will need to grow the size and capabilities of our organization, and we may experience difficulties in managing this growth;
- We may rely on third parties to perform many essential services for any products that we commercialize, including services related to distribution, government price reporting, customer service, accounts receivable management, cash collection, and adverse event reporting. If these third parties fail to perform as expected or to comply with legal and regulatory requirements, our ability to commercialize our current or future products will be significantly impacted and we may be subject to regulatory sanctions;
- We may be unable to successfully or sufficiently expand our manufacturing capacity to meet demand for our products;
- We depend on the success of our product candidates and cannot guarantee that these product candidates will successfully complete development, receive regulatory approval, or be successfully commercialized;
- Development of a product candidate intended for use in combination with an already approved product may present more or different challenges than development of a product candidate for use as a single agent;
- A Fast Track, breakthrough therapy, or regenerative medicines advanced therapy product designations, or other designation to facilitate product candidate development may not lead to faster development or a faster regulatory review or approval process, and it does not increase the likelihood that our product candidates will receive marketing approval;
- While in the U.S. lifileucel has received orphan drug designation for melanoma stages IIB-IV and for cervical cancer patients with tumors greater than 2 cm, there is no guarantee that we will be able to maintain this designation, receive these designations for any of our other product candidates, or receive or maintain any corresponding benefits, including periods of exclusivity;
- We may encounter substantial delays in our clinical trials, not be able to conduct our clinical trials on the timelines we expect, and be required to conduct additional clinical trials or modify current or future clinical trials based on feedback we receive from the FDA and foreign regulatory authorities;
- It may take longer and cost more to complete our clinical trials than we project, or we may not be able to complete them at all;
- Our clinical trials may fail to demonstrate adequately the safety and efficacy of our product candidates, which would prevent or delay regulatory approval and commercialization;
- We are required to pay substantial royalties and lump sum benchmark payments under our license or acquisition agreements with the NIH, Novartis, Clinigen, and Cellectis, and we must meet certain milestones to maintain our license rights;
- We rely on and collaborate with governmental, academic, and corporate partners or agencies to approve, improve, and develop TIL cell therapies for new indications for use in combination with other therapies and to evaluate new TIL manufacturing methods, the results of which, because the manufacturing processes are not within our control, and may be incorrect or unreliable;
- We have global operations, which expose us to additional risks, and any adverse event could have a material adverse effect on our results of operations and financial condition; and
- We are currently operating in a period of economic uncertainty and capital markets disruption, which has been significantly impacted by geopolitical instability, ongoing military conflicts between Russia and Ukraine and between Israel and Hamas, Hezbollah, and the Houthis, and inflation. Our business, financial condition and results of operations could be materially adversely affected by any negative impact on the global economy and capital markets resulting from the conflict in Ukraine and the Middle East, geopolitical tensions, or inflation.

Risks Related to Government Regulation:

- We are subject to extensive regulation, which can be costly and time consuming and can subject us to unanticipated delays in obtaining regulatory approvals for our products and/or product candidates, and even after obtaining regulatory approval for some of our products and/or product candidates, those products and/or product candidates may still face regulatory difficulties;
- The FDA and foreign regulatory approval process is lengthy and time-consuming, and we may experience significant delays in the clinical development and regulatory approval of our product candidates;
- Political uncertainty may have an adverse impact on our operating performance and results of operations, and uncertainty surrounding the potential legal, regulatory, and policy changes by a new U.S. presidential administration may directly affect us and the global economy;
- Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not mean that we will be successful in obtaining or maintaining regulatory approval of our product candidates in other jurisdictions; and
- Coverage and reimbursement may be limited or unavailable in certain market segments for our product candidates, which could make it difficult for us to sell our product candidates profitably.

The summary risk factors described above should be read together with the text of the full risk factors below in this section entitled "*Risk Factors*" and the other information set forth in this Annual Report on Form 10-K, including our consolidated financial statements and the related notes, as well as in other documents that we file with the SEC. The risks summarized above or described in full below are not the only risks that we face. Additional risks and uncertainties not precisely known to us or that we currently deem to be immaterial may also materially adversely affect our business, financial condition, results of operations, and future growth prospects.

Risks Related to Our Business

Risks Related to Our Financial Position and Need for Additional Capital

We have a history of operating losses; we expect to continue to incur losses, and we may never be profitable.

We are a commercial-stage biopharmaceutical company pioneering a transformational approach to treating cancer by harnessing the human immune system's ability to recognize and destroy diverse cancer cells using therapies personalized for each patient. Until recently, we did not have products approved for commercial sale and have not generated significant revenue from operations. With the recent approval of the BLA, we began to generate revenue from the sale of our product Amtagvi® in the second quarter of 2024. Furthermore, following the acquisition of the worldwide rights to Proleukin® in May 2023, or the Acquisition, we began to generate revenue from the sales of Proleukin®. However, Proleukin® revenues are dependent upon continued use in manufacturing and clinical settings by us and other cell therapy companies.

We recognize revenue from product sales in accordance with ASC Topic 606, Revenue from Contracts with Customers, or ASC 606. Under ASC 606, revenue is recognized when a customer obtains control of promised goods or services in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To the extent the transaction price includes variable consideration, we estimate the amount of variable consideration that should be included in the transaction price using the most likely method based on historical experience, as well as applicable information currently available.

In the U.S., products are sold principally to hospitals and clinics, as well as distributors and wholesalers, and outside of the U.S. to hospitals and clinics. Contractual performance obligations are usually limited to transfer of control of the product to the customer. In the case of Amtagvi®, revenue is recognized upon infusion, while for Proleukin®, transfer of control occurs either upon shipment or upon receipt of the product after considering when the customer obtains legal title to the product. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring our products and is generally based on a list of fixed prices less allowances for chargebacks, product returns, rebates and discounts. Our payment terms to customers range from 45 to 105 days; payment terms differ by customer and by product.

Revenue is reduced at the time of recognition for expected chargebacks, discounts, rebates, and sales allowances, collectively referred to as gross to net adjustments, or GTN adjustments. In the U.S., these GTN adjustments are attributable to various commercial arrangements and government programs. In addition, non-U.S. government programs include different pricing schemes such as cost caps and volume discounts. Cash discounts are recorded as a reduction to receivables and settled through the issuance of credits, typically within one month. All other GTN adjustments are recorded as a liability and settled through cash payments to the customer.

Significant judgement is required in estimating GTN adjustments considering legal interpretations of applicable laws and regulations, historical experience, payer channel mix, current contract prices under applicable programs, processing time lags, and inventory levels in the distribution channel.

As of December 31, 2024, we had an accumulated deficit of $2.4 billion. In addition, during the year ended December 31, 2024, we incurred a net loss of $372.2 million. While we are executing the U.S. launch of our first internally developed product, Amtagvi®, we may not generate any meaningful product sales until later, and we expect to incur significant additional operating losses in the future as we expand our development and clinical trial activities in support of demonstrating the effectiveness of our product candidates.

Our ability to achieve long-term profitability is dependent upon obtaining regulatory approvals for our products and successfully commercializing our products alone or with third parties. However, our operations may not be profitable even if any of our products under development are successfully developed and produced and thereafter commercialized.

We may need additional financing to fund our operations and complete the development of our various product candidates and commercialization of our products, and if we are unable to obtain such financing, we may be unable to complete the development of our product candidates and commercialization of our products. 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.

Our operations have consumed substantial amounts of cash since inception. From our inception to December 31, 2024, we have an accumulated deficit of $2.4 billion. In addition, our research and development and our operating costs have also been substantial and are expected to increase. For example, in October 2018, we closed an underwritten public offering of our common stock. The net proceeds from the offering, after deducting the underwriting discounts and commissions and other offering expenses payable by us, were $236.7 million. In June 2020, we closed another underwritten offering of our common stock. The net proceeds from the offering, after deducting the underwriting discounts and commissions and other offering expenses payable by us, were $567.0 million. In July 2023, we closed another underwritten offering of our common stock. The net proceeds from the offering, after deducting the underwriting discounts and commissions and other offering expenses payable by us, were $161.5 million. In February 2021, we entered into an open market sale agreement, or the 2021 Sale Agreement, with Jefferies LLC, or Jefferies, which provided for the sale of up to $350.0 million of our common stock from time to time, which was subsequently increased to $500.0 million in November 2022 upon the execution of an updated open market sale agreement, or the 2022 Sale Agreement, with Jefferies. In June 2023, we entered into a new open market sale agreement, or the 2023 Sale Agreement, with Jefferies, which superseded the 2022 Sale Agreement and provided for the sale of up to $450.0 million of our common stock from time to time. In February 2024, we closed another underwritten offering of our common stock. The net proceeds from the offering, after deducting the underwriting discounts and commissions and other offering expenses payable by us, were $197.4 million. As of December 31, 2024, we had $330.1 million in cash, cash equivalents, investments, and restricted cash ($115.7 million of cash and cash equivalents, $208.1 million in short-term investments, and restricted cash of $6.4 million).

With the approval of the BLA, we began to generate revenue from the sale of our product Amtagvi® in the second quarter of 2024. Furthermore, following the Acquisition, we began to generate revenue from the sales of Proleukin®. There is no assurance that such funds will be sufficient to fund our operations during the 12 months from the date the consolidated financial statements are issued and this Form 10-K is filed. However, based on the funds we have available as of the date these consolidated financial statements are issued, we believe that we have sufficient capital to fund our anticipated operating expenses and capital expenditures as planned for at least the next twelve months following the issuance of our consolidated financial statements included in this Form 10-K. However, in order to complete the development of our current product candidates, and in order to affect our business plan, including expanding our own manufacturing facility, we anticipate that we will have to spend more than the funds currently available to us. Furthermore, changing circumstances may cause us to increase our spending significantly faster than we currently anticipate. We may require additional capital for the further development of our product candidates and commercialization of our products and may need to raise additional funds sooner if we choose to expand more rapidly than we presently anticipate. Moreover, our fixed expenses such as rent, minimum payments to our contract manufacturers, and other contractual commitments, including those for our research collaborations, are substantial and are expected to increase in the future.

We will need to obtain additional financing to fund our future operations, including completing the development of our product candidates and commercialization of our products. Our future funding requirements will depend on many factors, including, but not limited to:

- progress, timing, scope, and costs of our clinical trials, including the ability to timely initiate clinical sites, enroll subjects, and manufacture TIL for treatment for patients in our ongoing, planned and potential future clinical trials;

- time and cost necessary to obtain regulatory approvals that may be required by regulatory authorities to execute clinical trials or commercialize our product;
- our ability to successfully commercialize our product candidates, if approved;
- our ability to have clinical and commercial product successfully manufactured consistent with FDA and foreign regulations, including those applicable in the EU;
- amount of sales and other revenues from product candidates that we may commercialize, if any, including the selling prices for such potential products and the availability of adequate third-party coverage and reimbursement for patients;
- sales and marketing costs associated with commercializing our products, if approved, including the cost and timing of building our marketing and sales capabilities;
- cost of expanding, staffing and validating our own manufacturing facility in the U.S.;
- terms and timing of our current and any potential future collaborations, licensing or other arrangements that we have established or may establish;
- cash requirements of any future acquisitions or the development of other product candidates;
- costs of operating as a public company;
- time and cost necessary to respond to technological, regulatory, political, and market developments;
- costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights; and
- costs associated with any potential business or product acquisitions (such as the acquisition of Proleukin®), strategic collaborations, licensing agreements, or other arrangements that we may establish.

Unless and until we can generate a sufficient amount of revenue, we may finance future cash needs through public or private equity offerings, license agreements, debt financings, collaborations, strategic alliances and marketing or distribution arrangements. Additional funds may not be available when we need them on terms that are acceptable to us, or at all. We have no committed source of additional capital and if we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may be required to delay or reduce the scope of or eliminate one or more of our research or development programs or our commercialization efforts. Our current license and collaboration agreements may also be terminated if we are unable to meet the payment obligations under those agreements. As a result, we may seek to access the public or private capital markets whenever conditions are favorable, even if we do not have an immediate need for additional capital at that time.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms may include liquidation or other preferences that adversely affect your 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.

Subject to various spending levels approved by our Board of Directors, our management will have broad discretion in the use of the net proceeds from our capital raises, including our February 2024, July 2023, June 2020, October 2018 and January 2018 public offerings and the proceeds from sales pursuant to our "at-the-market" sale agreement with Jefferies LLC, and may not use them effectively.

Our management will have discretion in the application of the net proceeds from our capital raises, including our February 2024, July 2023, June 2020, October 2018, and January 2018 public offerings, and the proceeds from sales pursuant to the 2023 Sale Agreement with Jefferies, which provides for the sale of up to $450.0 million of our common stock from time to time, and our stockholders will not have the opportunity as part of their investment decision to assess whether the net proceeds from our capital raises are being used appropriately. You may not agree with our decisions, and our use of the proceeds from our capital raises may not yield any return to stockholders. Because of the number and variability of factors that will determine our use of the net proceeds from our capital raises, their ultimate use may vary substantially from their currently intended use. Our failure to apply the net proceeds of our capital raises effectively could compromise our ability to pursue our growth strategy and we might not be able to yield a significant return, if any, on our investment of those net proceeds. Stockholders will not have the opportunity to influence our decisions on how to use our net proceeds from our capital raises. Pending their use, we may invest the net proceeds from our capital raises in interest and non-interest-bearing cash accounts, short-term, investment-grade, interest-bearing instruments and U.S. government securities. These temporary investments are not likely to yield a significant return.

The use of our net operating loss carryforwards and research tax credits may be limited.

Our net operating loss carryforwards and any future research and development tax credits may expire and not be used. As of December 31, 2024, we had U.S. federal net operating loss carryforwards of approximately $1.3 billion. Our net operating loss carryforwards arising in taxable years ending on or prior to December 31, 2017 will begin expiring in 2027 if we have not used them prior to that time. Net operating loss carryforwards arising in taxable years ending after December 31, 2017, are no longer subject to expiration under the Internal Revenue Code of 1986, as amended, or the Code. Additionally, our ability to use any net operating loss and credit carryforwards to offset taxable income or tax, respectively, in the future will be limited under Sections 382 and 383 of the Code, respectively, if we have a cumulative change in ownership of more than 50% within a three-year period.

Prior to December 31, 2024, we experienced multiple ownership changes. As a result, the federal and state carryforwards associated with the net operating loss and credit deferred tax assets were reduced by the amount of tax attributes estimated to expire during their respective carryforward periods. In addition, since we will need to raise substantial additional funding to finance our operations, we may undergo further ownership changes in the future. Any such annual limitation may significantly reduce the utilization of the net operating loss carryforwards and research tax credits before they expire. Depending on our future tax position, limitation of our ability to use net operating loss carryforwards in states in which we are subject to income tax could have an adverse impact on our results of operations and financial condition.

Recently enacted tax reform legislation in the U.S., changes to existing tax laws, or challenges to our tax positions could adversely affect our business and financial condition.

The tax regimes to which we are subject or under which we operate are unsettled and may be subject to significant change. Any such changes to existing federal and state tax laws could adversely impact our business, results of operations, and financial position as the impact of recent tax legislation is uncertain.

In recent years, various tax legislations were signed into law. On December 22, 2017, the Tax Cuts and Jobs Act of 2017, or the Tax Act, was signed into law, making significant changes to the Internal Revenue Code.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act, or the CARES Act, was enacted in response to the COVID-19 pandemic. Certain provisions of the CARES Act amend or suspend certain provisions of the Tax Act. For example, the tax relief measures under the CARES Act for businesses include a five-year net operating loss carryback, suspension of annual deduction limitation of 80% of taxable income from net operating losses generated in a tax year beginning after December 31, 2017, changes in the deductibility of interest, acceleration of alternative minimum tax credit refunds, payroll tax relief, and a technical correction to allow accelerated deductions for qualified improvement property. On June 15, 2020, Assembly Bill 85 was passed in California, which suspended the use of net operating losses and limited the use of credits for certain corporations. Following the change in U.S. administration, there is uncertainty regarding future legislative and regulatory changes and policies related to matters such as taxation and importation, including tariffs, and any such proposed or enacted regulations, taxes, or tariffs by the current or a future U.S. administration, Congress, or taxing and importation authorities in other jurisdictions could adversely impact the global economy and materially affect our tax obligations, tariff obligations, and operating results.

In addition, U.S. federal, state and local tax laws are extremely complex and subject to various interpretations. Although we believe that our tax estimates and positions are reasonable, including our decision to build the *i*CTC at the Navy Yard in Philadelphia in order to take advantage of the site’s designation as a Keystone Opportunity Zone, Keystone Opportunity Expansion Zone, or Keystone Opportunity Improvement Zone, or collectively a KOZ, which allows incentives for business development, as well as certain other financial incentives provided by the Commonwealth of Pennsylvania, the City of Philadelphia, and the Philadelphia Industrial Development Corporation, there can be no assurance that our tax positions will not be challenged by relevant tax authorities or that we would be successful in any such challenge. Further, challenges to the site's designation as a KOZ or broader challenges to Pennsylvania's KOZ program could result in the revocation of the site’s designation as a KOZ and the attendant tax advantages associated with such designation. If we are unsuccessful in such a challenge, or if the site’s status as a KOZ is revoked, the relevant tax authorities may assess additional taxes, which could result in adjustments to, or impact the timing or amount of, taxable income, deductions or other tax allocations, which may adversely affect our results of operations and financial position. In addition, given our current net loss and net loss carryforwards, we may not be able to realize the full benefit of these tax advantages before they expire.

Risks Related to the Manufacturing and Commercialization of Our Products and Product Candidates

Even though our lead product Amtagvi® is approved and commercialized, we may not become profitable.

Our lead product, Amtagvi®, is initially targeting a small population of refractory patients that suffer from metastatic melanoma. Even with FDA approval of Amtagvi®, and even if we obtain significant market share, because the potential target population for Amtagvi® in refractory patients may be small, we may never achieve profitability without obtaining regulatory approval for additional indications. The FDA often approves new therapies initially only for use in patients with relapsed or refractory metastatic disease. We expect to initially seek approval of our product candidates in this setting and are currently conducting clinical trials on these patient populations. Since Proleukin® is an established product and there are competing products in development, the success of Proleukin® is closely tied to Amtagvi® and use with other cell therapies. An approval for a marketed product, such as Proleukin®, may be withdrawn by the FDA or another regulatory agency and disrupt both Proleukin® and Amtagvi® because of their codependency. Additionally, Proleukin® revenues are dependent upon continued use in manufacturing and clinical settings by Iovance and other cell therapy companies.

The manufacture of our products and product candidates is complex, and we may encounter difficulties in production, particularly with respect to process development, quality control, or scaling-up of our manufacturing capabilities. If we, or any of our third-party manufacturers encounter such difficulties, our ability to provide supply of our product candidates for clinical trials or our products for patients could be delayed or stopped, or we may be unable to maintain a commercially viable cost structure.

Our products and product candidates are biologics and the process of manufacturing our products is complex, highly regulated and subject to multiple risks. The manufacture of our products and product candidates involves complex processes, including harvesting tumor fragments from patients, isolating the T cells from the tumor fragments, multiplying the T cells to obtain the desired dose, and ultimately infusing the T cells back into a patient. The complexities of manufacturing cell therapy products require extensive collaboration with treatment centers including the provision of patient tumor tissue for manufacture. Manufacturing is dependent on many factors including quality of the patient tumor tissue, treatment center training, and unique factors specific to autologous cell therapy manufacturing that can jeopardize the product approval, launch, scale, and capacity. As a result of the complexities, the cost to manufacture biologics is generally higher than traditional small molecule chemical compounds, and the manufacturing process is less reliable and is more difficult to reproduce. Our manufacturing process will be susceptible to product loss or failure due to logistical issues associated with the collection of tumor fragments, or starting material, from the patient, shipping such material to the manufacturing site, shipping the final product back to the patient, and infusing the patient with the product, manufacturing issues associated with the differences in patient starting material, interruptions in the manufacturing process, contamination, equipment failure, assay failures, improper installation or operation of equipment, vendor or operator error, inconsistency in cell growth, meeting pre-specified release criteria, and variability in product characteristics. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects, and other supply disruptions. If for any reason we lose a patient's starting material, or later-developed product at any point in the process, or if any product does not meet the applicable specifications, the manufacturing process for that patient will need to be restarted, including resection of the proper amount of tumor fragment, and the resulting delay may adversely affect that patient's outcome. If microbial, viral, environmental or other contaminations are discovered in our product candidates or in the manufacturing facilities in which our product candidates are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination.

Because our products and product candidates are manufactured specifically for each individual patient, we will be required to maintain a chain of identity and chain of custody with respect to the patient's tumor as it moves from the patient to the manufacturing facility, through the manufacturing process, and back to the patient. Maintaining such chains of identity and chains of custody is difficult and complex, and failure to do so could result in adverse patient outcomes, loss of product, or regulatory action including withdrawal of our products from the market. Further, as product candidates are developed through preclinical studies to late-stage clinical trials towards approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods, are altered along the way 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 or otherwise necessitate the conduct of additional studies.

Currently, our products and product candidates are manufactured at our internal facility, the *i*CTC, and by CMOs, using processes developed or modified by us or by our third-party research institution collaborators that we may not intend to use for more advanced clinical trials or commercialization. Gen 2 is the FDA-approved, commercial manufacturing process for Amtagvi® and has been selected for all ongoing and future company-sponsored clinical trials. Although we believe Gen 2 is a commercially viable process, there are risks associated with scaling to the level required for advanced clinical trials or commercialization, including, among others, cost

overruns, potential problems with process scale-up, process reproducibility, stability issues, lot consistency, and timely availability of raw materials. As a result of these challenges, we may experience delays in our clinical development and/or commercialization plans. Furthermore, 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 May 2019 we entered into a lease agreement to build a commercial-scale manufacturing facility, the *i*CTC, in Philadelphia, Pennsylvania for commercial and clinical production of autologous TIL products, including our product Amtagvi®. The *i*CTC is currently manufacturing TIL for our ongoing clinical trials and Amtagvi® for commercial supply. Manufacturing performed by us is centralized at the *i*CTC, instead of manufacturing at various facilities. As of the first quarter of 2024, the *i*CTC facility was approved by the FDA for commercial manufacturing of Amtagvi®, and we successfully initiated commercial manufacturing and continue our capacity building and facility expansion activities to supply clinical and commercial TIL to meet demand. We expect our manufacturing facility will provide us with enhanced control of material supply for both clinical trials and the commercial market, enable the more rapid implementation of process changes, and allow for better long-term margins. We have built capacity to potentially treat thousands of cancer patients annually. However, we may not be successful in finalizing the expansion of our own manufacturing facility or capability. We may establish multiple manufacturing facilities as we expand our commercial footprint to multiple geographies, which may lead to regulatory delays or prove costly. Even if we are successful, our manufacturing capabilities could be affected by cost-overruns, unexpected delays, equipment failures, labor shortages, natural disasters, power failures, and numerous other factors that could prevent us from realizing the intended benefits of our manufacturing strategy and have a material adverse effect on our business.

The manufacture of cell therapy products requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of cell therapy products often encounter difficulties in production, particularly in scaling up initial production. These problems include difficulties with production costs and yields, quality control, including stability of the product candidate and quality assurance testing, shortages of qualified personnel, and compliance with strictly enforced federal, state, local and foreign regulations. The FDA may take a restrictive approach when regulating cell therapy manufacturing facilities that could result in delays, product release challenges, shortages, or capacity restraints.

Our current manufacturing strategy involves the use of CMOs in conjunction with our internal manufacturing capacity at the *i*CTC. Currently our products and product candidates are manufactured internally at the *i*CTC and externally by WuXi Advanced Therapies, Inc., or Wuxi, and previously by Moffitt. Additionally, we partner with American Red Cross, or ARC, to operate our facility to produce feeder cells for TIL manufacturing. The process for manufacturing TIL is heavily reliant on the supply of biological raw materials and maintaining a GMP facility capable of supplying our manufacturing facilities with quality cells to make the final product. There are only a limited number of these types of facilities and sources for the materials needed by TIL cell therapy manufacturers. The *i*CTC and our CMO are aseptic manufacturing facilities that operate clean rooms for the production of TIL cell therapies, which are subject to contamination, labor, occupational safety, regulatory, climate, and environmental risks that could interfere with production. Any problems or delays we or our CMOs experience in preparing for commercial scale manufacturing of a product, product candidate, or component thereof may result, in the case of product candidates, a delay in the approval thereof or, in the case of products, may impair our ability to manufacture commercial quantities or such quantities at an acceptable cost, which could result in the delay, prevention, or impairment of clinical development of our product candidates and commercialization of our products and could adversely affect our business. Furthermore, if we or our commercial manufacturers fail to deliver the required commercial quantities of our product candidates on a timely basis and at reasonable costs, we would likely be unable to meet demand for our products and we would lose potential revenues.

Moreover, while we are expanding our capabilities to enable more internal manufacturing, should we continue to use CMOs, we may not succeed in maintaining our relationships with our current CMO or establishing relationships with additional or alternative CMOs. Our products and product candidates may compete with other products and product candidates for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that are both capable of manufacturing for us and willing to do so. If our CMOs should cease manufacturing for us, we would experience delays in obtaining sufficient quantities of our product candidates for clinical trials and, if approved, commercial supply. Further, our CMOs may breach, terminate, or not renew these agreements. If we were to need to find alternative manufacturing facilities it would significantly impact our ability to develop, obtain regulatory approval for or market our product candidates, if approved. The commercial terms of any new arrangement could be less favorable than our existing arrangements and the expenses relating to the transfer of necessary technology and processes could be significant.

Reliance on third-party manufacturers entails exposure to risks to which we would not be subject if we manufactured the products and product candidates exclusively by ourselves, including:

- inability to negotiate manufacturing and quality agreements with third parties under commercially reasonable terms;
- reduced day-to-day control over the manufacturing process for our product candidates as a result of using third-party manufacturers for all aspects of manufacturing activities;
- reduced control over the protection of our trade secrets and know-how from misappropriation or inadvertent disclosure;
- termination or nonrenewal of manufacturing agreements with third parties in a manner or at a time that may be costly or damaging to us or result in delays in the development or commercialization of our products and/or product candidates;
- disruptions to the operations of our third-party manufacturers or suppliers caused by conditions unrelated to our business or operations, including the bankruptcy of the manufacturer or supplier;
- international or multi-national activities that are related to business activities outside of our scope, but may have an impact on a CMO's ability to conduct business in a manner consistent with governmental or our regulatory and ethical standards; and
- our ability to synchronize operations and standards to ensure that all aspects of manufacturing are consistent without deviations across facilities.

In addition, the manufacturing process and facilities for any products and product candidates that we may develop at the *i*CTC and or our CMOs is subject to FDA and foreign regulatory authority approval processes, and we or our CMOs will need to meet all applicable FDA and foreign regulatory authority requirements, including cGMP, on an ongoing basis. The cGMP requirements include quality control, quality assurance, and the maintenance of records and documentation. The FDA and other regulatory authorities enforce these requirements through facility inspections. Manufacturing facilities must submit to pre-approval inspections by the FDA that will be conducted after we submit our marketing applications for our product candidates, including our BLAs, to the FDA. Manufacturers are also subject to continuing regulatory oversight by FDA and other regulatory authorities, including inspections following marketing approval. Further, we, in cooperation with our CMOs, must supply all necessary chemistry, manufacturing, and control documentation for a pre-approval inspection in support of a BLA on a timely basis. Although both the internal and external facilities were approved by the FDA for commercial manufacturing of Amtagvi®, there is no guarantee that we or our CMOs will be able to successfully pass all aspects of surveillance or pre-approval inspections by the FDA or other foreign regulatory authorities for Amtagvi® or future product candidates.

Our internal manufacturing facilities or our CMOs' manufacturing facilities may be unable to comply with our specifications, cGMP, and with other FDA, state, and foreign regulatory requirements. Poor control of production processes can lead to the introduction of adventitious agents or other contaminants, or to inadvertent changes in the properties or stability of product candidate that may not be detectable in final product testing. If we or our CMOs are unable to reliably produce products and/or product candidates to specifications acceptable to the FDA or other regulatory authorities, or in accordance with the strict regulatory requirements, we may not obtain or maintain the approvals we need to commercialize such products. Even after obtaining regulatory approval, in the case of our products, and even if we obtain regulatory approval, in the case 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. Deviations from manufacturing requirements may further require remedial measures that may be costly and/or time-consuming for us or a third party to implement and may include the temporary or permanent suspension of a clinical trial or commercial sales or the temporary or permanent closure of a facility. Any such remedial measures imposed upon us or third parties with whom we contract could materially harm our business.

Even to the extent we use and continue to use CMOs, we are ultimately responsible for the manufacture of our products and product candidates. A failure to comply with these requirements may result in regulatory enforcement actions against our manufacturers or us, including fines and civil and criminal penalties, which could result in imprisonment, suspension or restrictions of production, injunctions, delay or denial of product approval or supplements to approved products, clinical holds or termination of clinical trials, warning or untitled letters, regulatory authority communications warning the public about safety issues with the biologic, refusal to permit the import or export of the products, product seizure, detention, or recall, operating restrictions, suits under the civil False Claims Act, corporate integrity agreements, consent decrees, or withdrawal of product approval.

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 candidate, impair commercialization efforts, increase our cost of goods, and have an adverse effect on our business, financial condition, results of operations, and growth prospects.

Cell-based therapies and biologics rely on the availability of biological raw materials (including live cells), chemicals and agents used for manufacturing, reagents, specialized equipment, and other specialty materials, which may not be available to us on acceptable terms or at all. For each of these, we rely or may rely on treatment sites, limited manufacturers, sole source vendors, or a limited number of vendors, which could impair our ability to manufacture and supply our products.

Manufacturing our products and product candidates requires live cells among other biological raw materials, chemicals and agents used for manufacturing. Many reagents, which are substances used in our manufacturing processes to bring about chemical or biological reactions, and other specialty materials and equipment, some of which are manufactured or supplied by small companies with limited resources and experience to support commercial biologics production. We currently depend on a limited number of vendors for certain materials and equipment used in the manufacture of our product candidates. Some of these suppliers may not have the capacity to support clinical trials and commercial products manufactured under cGMP by biopharmaceutical firms or may otherwise be ill-equipped to support our needs. We also do not have supply contracts with many of these suppliers and may not be able to obtain supply contracts with them on acceptable terms or at all. Accordingly, we may experience delays in receiving key materials and equipment to support clinical or commercial manufacturing.

For each of these biological raw materials (including live cells), chemicals and agents used for manufacturing, reagents, equipment, and materials, we rely and may in the future rely on treatment sites, limited manufacturers, sole source vendors, or a limited number of vendors. An inability to continue to source product from any of these suppliers, which could be due to a number of issues, including regulatory actions or requirements affecting the supplier, adverse financial or other strategic developments experienced by a supplier, labor disputes or shortages, unexpected demands, or quality issues, could adversely affect our ability to satisfy demand for our product candidates, which could adversely and materially affect our product sales and operating results or our ability to conduct clinical trials, either of which could significantly harm our business.

As we continue to develop and scale our manufacturing process, we expect that we will need to obtain rights to and supplies of certain materials and equipment to be used as part of that process. We may not be able to obtain rights to such materials on commercially reasonable terms, or at all, and if we are unable to alter our process in a commercially viable manner to avoid the use of such materials or find a suitable substitute, it would have a material adverse effect on our business. Even if we are able to alter our process so as to use other materials or equipment, such a change may lead to a delay in our clinical development and/or commercialization plans. If such a change occurs for product candidate that is already in clinical testing, the change may require us to perform both *ex vivo* comparability studies and to collect additional data from patients prior to undertaking more advanced clinical trials.

Because our current products represent, and our other potential product candidates will represent novel approaches to the treatment of disease, there are many uncertainties regarding the development, the market acceptance, third-party reimbursement coverage, and the commercial potential of our product candidates.

Human immunotherapy products are a new category of therapeutics. Because this is a relatively new and expanding area of novel therapeutic interventions, there are many uncertainties related to development, marketing, reimbursement, and the commercial potential for our product candidates. There can be no assurance as to the length of the clinical trial period, the number of patients the FDA and foreign regulatory authorities will require to be enrolled in the clinical trials in order to establish the safety, efficacy, purity and potency of immunotherapy products, or that the data generated in these clinical trials will be acceptable to the FDA and foreign regulatory authorities to support marketing approval. The FDA may take longer than usual to come to a decision on any BLA that we submit and may ultimately determine that there is not enough data, information, or experience with our product candidates to support an approval decision. The FDA and foreign regulatory authorities may also require that we conduct additional post-marketing studies or implement risk management programs, such as Risk Evaluation and Mitigation Strategies, or REMS, until more experience with our product candidates is obtained. Finally, after increased usage, we may find that our product candidates do not have the intended effect or have unanticipated side effects, potentially jeopardizing initial or continuing regulatory approval and commercial prospects.

We may also find that the manufacture of our product candidates is more difficult than anticipated, resulting in an inability to produce a sufficient amount of our product candidates for our clinical trials or, if approved, commercial supply. Moreover, because of the complexity and novelty of our manufacturing process, there are only a limited number of manufacturers who have the capability of producing our product candidates. Should any of our contract manufacturers no longer produce our product candidates, it may take us significant time to find a replacement, if we are able to find a replacement at all.

There is no assurance that the approaches offered by our products will gain broad acceptance among doctors or patients or that governmental agencies, national healthcare systems, or third-party medical insurers will be willing to provide reimbursement coverage for proposed product candidates. Moreover, we do not have verifiable internal marketing data regarding the potential size of the commercial market for our product candidates, nor have we obtained current independent marketing surveys to verify the potential size of the commercial markets for our current product candidates or any future product candidates. Since our current product candidates and any future product candidates will represent novel approaches to treating various conditions, it may be difficult, in any event, to accurately estimate the potential revenues from these product candidates. Accordingly, we may spend significant capital trying to obtain approval for product candidates that have an uncertain commercial market. The market for any products that we successfully develop will also depend on the selling price of the product, which may be further impacted by future price increases for our products.

Cell based therapies may not be eligible for insurance coverage due to reluctance by third party payors to cover the costs associated with such therapies. Payors may deny coverage or offer inadequate levels of reimbursement for these therapies if they determine that the product has not received appropriate clearances from the FDA or other government regulators or if they deem the therapies to be investigational or experimental, not medically necessary, or otherwise inappropriate. Although we may apply for special government programs and prepare the market for product approval, there is no way to ensure that healthcare providers, insurance companies, or other third parties will reimburse our product at an expeditious rate. Even if we obtain insurance coverage for our product from payors, there is no guarantee that third party payors will provide adequate coverage or reimbursement. Coverage at treatment centers will require payment for the total cost of care, which includes the costs of not only our product but also the costs of surgery, conditioning chemotherapy, and other staffing and hospitalization needs. Furthermore, coverage policies and reimbursement rates are subject to change. With respect to any coverage or reimbursement that may be provided, payors may seek to impose restrictions on coverage, pricing, and reimbursement levels to contain these costs. In some cases, we do not have long-term agreements with insurance companies but negotiate single-case agreements on a case-by-case basis to obtain prior authorization, coverage, and reimbursement for a particular case. If coverage and reimbursement are not available or are inadequate, ATCs and clinics may decide not to recommend our product, and there may be a slow uptake or variable or limited access, if at all, to our therapies. Likewise, in the absence of a long-term agreement with an insurance company, there is no guarantee that an insurance company will enter into a single-case agreement with us or otherwise provide prior authorization for a particular case, in which case there may be no or inadequate coverage and reimbursement for our products. Seeking prior authorization and negotiating the single-case agreement may take anywhere from days to months to obtain, if at all, and may cause ATCs, clinics and patients to decline to use our products.

We do not yet have sufficient information to reliably estimate what it will cost to commercially manufacture our current product candidates, and the actual cost to manufacture these products could materially and adversely affect the commercial viability of these products. Our goal is to reduce the cost of manufacturing and providing our therapies. However, unless we can reduce those costs to an acceptable amount, we may never be able to develop a commercially viable product. If we do not successfully develop and commercialize products based upon our approach or find suitable and economical sources for materials used in the production of our products, we will not become profitable, which would materially and adversely affect the value of our common stock.

Our TIL cell therapies and our other therapies may be provided to patients in combination with other agents provided by third parties. The cost of such combination therapy may increase the overall cost of therapy and may result in issues regarding the allocation of reimbursements between our therapy and the other agents, all of which may affect our ability to obtain reimbursement coverage for the combination therapy from governmental or private third-party medical insurers.

No assurance can be given that the Gen 2 manufacturing process or other processes we have selected will be FDA compliant or more efficient and will lower the cost to manufacture TIL products.

We have developed and are developing improved methods for generating and selecting autologous TILs, and methods for large-scale production of autologous TILs that are in accord with current cGMP procedures. We have developed a new and more efficient TIL manufacturing process that we believe can be more efficient and cost effective, and in a more automated manner than previous processes. The production and control of the physical and/or chemical attributes of our products in a cGMP facility is subject to many uncertainties and difficulties. As a novel therapy, TIL manufacturing and product release is complex and must evolve with both industry-wide autologous cell therapy challenges and new regulatory requirements that may result in delays and unexpected denials. We have limited experience in manufacturing our adoptive cell therapy product candidate on a commercial scale, as do our partners. As a result, we cannot give any assurance that the Gen 2 process or any future process that we select will be a manufacturing process that can produce our products in compliance with the applicable regulatory requirements, at a cost or in quantities necessary to make them commercially viable. Moreover, we and our third-party manufacturers will have to continually adhere to current cGMP regulations enforced by the FDA and foreign regulatory authorities through facilities inspection programs. If our facilities or any of the facilities of these manufacturers cannot demonstrate adequate assurance of compliance with applicable standards during a pre-approval inspection,

the approval of our products will not be granted. In complying with cGMP and foreign regulatory requirements, we and any of our third-party manufacturers will be obligated to expend time, money and effort in production, record-keeping, and quality control to assure that our products meet applicable specifications and other requirements. If we or any of our third-party manufacturers fail to comply with these requirements, we may be subject to regulatory action. No assurance can be given that we will be able to develop such a manufacturing process, or that our partners will thereafter be able to establish and operate such a production facility.

Our business entails a significant risk of product liability. If product liability lawsuits are brought against us, whether or not meritorious, we may incur substantial liabilities and may be required to limit or halt commercialization of our products and/or product candidates.

We face an inherent risk of product liability as a result of the clinical testing and manufacture of our product candidates for human trials, and we currently face an even greater risk as we commercialize products and engage in the quality testing and release of products. For example, we may be sued if our products and/or product candidates cause, are perceived, or alleged to cause injury or are found to be otherwise unsuitable during clinical testing, manufacturing, marketing, or sale, whether or not trial participants or patients are predisposed to adverse outcomes. Furthermore, if physicians and/or hospitals are not sufficiently trained in the use of our products or therapies, whether clinical or commercialized, they may misuse or ineffectively use our products or related products for our therapies, which may result in unsatisfactory patient outcomes or patient injury. Any such product liability claims may include allegations of defects in manufacturing, defects in design, defects in quality control measures, a failure to warn of dangers inherent in the product, negligence, strict liability, and/or a breach of warranties. Claims could also be asserted under state consumer protection acts. Large judgments have also been awarded in class action lawsuits based on therapeutics that had unanticipated side effects. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit or halt commercialization of our products and/or product candidates. Even a successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased or interrupted demand for our products and/or product candidates;
- injury to our reputation;
- withdrawal of clinical trial participants or sites and potential termination of clinical trial sites or entire clinical programs;
- initiation of investigations by regulators (including investigation of the safety and effectiveness of our products, our manufacturing processes and facilities, or our marketing programs), refusal to approve marketing applications or supplements, warnings, and withdrawal or other limitations on product approvals;
- costs to prepare for and defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to clinical trial participants or patients;
- product recalls, withdrawals, or restrictions on labeling, marketing, or promotions;
- loss of revenue;
- significant negative media attention;
- decrease in the price of our stock and overall value of our company;
- exhaustion of our available insurance coverage and our capital resources; and
- the delay or inability to commercialize our product candidates or achieve adequate revenue from our products.

Our inability to obtain sufficient product liability insurance at an acceptable cost and/or scope of coverage to protect against potential product liability claims could prevent or inhibit the commercialization of products we develop, alone or with corporate collaborators. Our insurance policies may also have various exclusions and/or deductibles, and we may be subject to a product liability or bodily injury claim for which we have no coverage or for which the insurance carrier disputes the scope of coverage. Furthermore, any product liability claim brought against us, with or without merit, could result in the increase of our product liability insurance rates or the inability to secure coverage in the future. Although we currently have product liability insurance that we believe is appropriate for our stage of development, we may need to obtain higher levels to cover marketing any of our approved products. In addition, we may have to pay amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts. We anticipate that we will need to increase our insurance coverage as we commence additional clinical trials and as we commercialize product candidates that have been or may be approved. If we determine that it is prudent to increase our product liability coverage, we may be unable to obtain such increased coverage on acceptable terms, or at all. The market for insurance coverage is increasingly expensive, and the costs of insurance coverage will increase as our clinical programs and commercialization efforts increase in size. Furthermore, even if our agreements with corporate collaborators entitle us to indemnification against product liability losses, such indemnification may not be available or adequate should any claim arise.

Any claims against us, regardless of their merit, could severely harm our financial condition, strain our management and other resources, adversely affect or eliminate the prospects for commercialization or sales of a product that is the subject of any such claim, and could have a material adverse effect on our business, financial condition, results of operations, and growth prospects.

We face significant competition from other biotechnology and pharmaceutical companies and from non-profit institutions.

Competition in the field of cancer therapy is intense and is accentuated by the rapid pace of technological development. Research and discoveries by others may result in breakthroughs which may render our products obsolete even before they generate any revenue. There are products that are approved and currently under development by others that could compete with the products that we are developing. Many of our potential competitors have substantially greater research and development capabilities and approval, manufacturing, marketing, financial, and managerial resources and experience than we do. Our competitors may:

- develop safer, more convenient or more effective immunotherapies and other therapeutic products;
- develop therapies that are less expensive or have better reimbursement from private or public payors;
- reach the market more rapidly, reducing the potential sales of our products; or
- establish superior proprietary positions.

Due to the promising clinical therapeutic effect of competitor therapies in clinical trials, we anticipate substantial direct competition from other organizations developing therapies in our commercial and pipeline target indications. In particular, we expect to compete with other new therapies for our lead indications developed by companies such as BioNtech, Bristol-Myers Squibb, Daiichi Sankyo, Eisai, Genmab, Immunocore, IO Biotech, Merck, Moderna, Pfizer, Regeneron Pharmaceuticals, and Replimune. We also may compete with other T cell therapies in development, including therapies based on genetically engineered T cell receptors rendered reactive against tumor-associated antigens prior to their administration, other genetically engineered TIL products, and TIL products designed to be reactive to specific neoantigens, by companies such as AbelZeta Pharma, Achilles Therapeutics, Adaptimmune Therapeutics, Alaunos Therapeutics, Biosyngen, GRIT Biotechnology, Immatics, Immunocore, Intima Bioscience, KSQ Therapeutics, Lyell Immunopharma, Marker Therapeutics, Obsidian Therapeutics, TILT Biotherapeutics, and others. To date, these technologies have been primarily applicable to hematologic malignancies, but their application in solid tumor indications may create competition with us. We may also face competition from immunotherapy treatments offered by companies such as Amgen, AstraZeneca, BioNTech, Bristol-Myers Squibb, Merck, Pfizer, Regeneron Pharmaceuticals, Roche, and others. We may also face competition from novel IL-2 treatments in development by Alkermes, ILToo Pharma, Merck, Nektar Therapeutics, Sanofi, Werewolf Therapeutics, and others. Many of these companies and our other current and potential competitors have substantially greater research and development capabilities and financial, scientific, regulatory, manufacturing, marketing, sales, human resources, and experience than we do. Many of our competitors have several therapeutic products that have already been developed, approved and successfully commercialized, or are in the process of obtaining regulatory approval for their therapeutic products in the U.S. and internationally. Our competitors may obtain regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in competitors establishing a strong market position before we are able to enter the market.

Universities and public and private research institutions around the world are also potential competitors. For example, a Phase 3 M14TIL clinical trial comparing TIL to standard ipilimumab in patients with metastatic melanoma is currently being conducted in Europe by the Netherlands Cancer Institute, the Copenhagen County Herlev University Hospital, and the University of Manchester. Results from the M14TIL clinical trial were presented at the European Society for Medical Oncology Congress in September 2022. While these universities and public and private research institutions primarily have educational objectives, they may develop proprietary technologies that lead to other approved therapies by the FDA, European Commission, or other regulatory agencies, or that secure patent protection that we may need for the development of our technologies and products.

Our lead product Amtagvi® is an approved therapy for the treatment of metastatic melanoma and a candidate for the treatment of other cancers. Currently, there are numerous companies that are developing various alternate treatments for melanoma and other cancers, including patients that have progressed after prior treatment with checkpoint inhibitors and chemotherapy. Accordingly, Amtagvi® faces significant competition in the melanoma and other cancer treatment space from multiple companies. Even after obtaining regulatory approval for Amtagvi®, the availability and price of our competitors' products could limit the demand and the price we are able to charge for our therapies. We may not be able to implement our business plan if the acceptance of our products is inhibited by price competition or the reluctance of physicians to switch from other methods of treatment to our product, or if physicians switch to other new therapies, drugs or biologic products or choose to reserve our product for use in limited circumstances.

Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

Our projections regarding the market opportunities for our products and product candidates may not be accurate, and the actual market for our products and product candidates may be smaller than we estimate.

Our projections of both the number of people who have the advanced cancers we are targeting, as well as the subset of people with metastatic or unresectable cancers and who have the potential to benefit from treatment with our products or product candidates are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including scientific literature, surveys of clinics, patient foundations, or market research by third parties, and may prove to be incorrect. Further, new studies or approvals of new therapeutics may change the estimated incidence or prevalence of these cancers. The number of patients may turn out to be lower than expected. Additionally, the potentially addressable patient population for our products and product candidates may be limited or may not be amenable to treatment with our products or product candidates and may also be limited by the cost of our treatments for patients, any future increase to such costs, and the reimbursement of those treatment costs by third-party payors. For instance, we expect Amtagvi® to initially target a small patient population that suffers from metastatic melanoma. Furthermore, we are also responsible for the manufacturing costs of products for patients that may have a tumor resection but ultimately do not receive an infusion, in which case we may incur manufacturing expenses without being able to recognize any revenue. Even if we obtain significant market share for our products or product candidates, because the potential target populations are small, we may never achieve profitability without obtaining regulatory approval for additional indications.

We have limited commercial experience and may be unable to establish effective marketing and sales capabilities or enter into agreements with third parties to market and sell our products and product candidates, if they are approved, and as a result, we may be unable to generate significant product awareness, and the lack of awareness may limit the revenues that we generate.

We currently have a commercial team focused on our commercial strategy, but we do not have a large commercial infrastructure for the marketing, sale, and distribution of biopharmaceutical products. In order to commercialize our products, we must continue to build our marketing, sales, and distribution capabilities or make arrangements with third parties to perform these services, which will take time and require significant financial expenditures, and we may not be successful in doing so. In addition, we rely on one or more third-party distributors for the commercial sale of our products. It may be difficult to pivot from our current distributors of biopharmaceutical products in the event that any agreements with such third-party distributors are terminated. If we need to enter into alternative arrangements, this could adversely affect our business. Furthermore, even if we are able to effectively establish a sales force and develop a marketing and sales infrastructure, our sales force and marketing teams may not be successful in commercializing our current or future product candidates. To the extent we rely on third parties to commercialize any products for which we obtain regulatory approval, we would have less control over their sales efforts and could be held liable if they failed to comply with applicable legal or regulatory requirements.

In addition to marketing our product, we will need current and future ATCs both inside and outside the U.S. that are prepared and have the capacity and experience to administer our therapies to patients. Even if we are able to obtain approval for a product candidate in a country or region, we may not be able to approve enough treatment centers for the provision of our product to a broad patient population. The number of ATCs we onboard to administer our product may fluctuate and affect our product launch, and even if we onboard a large number of ATCs, this does not ensure the uptake of our products. Additionally, certain areas do not have hospitals with the facilities to safely administer our therapy. Accordingly, we may only be able to launch our products with a limited number of ATCs, which could ultimately reduce the uptake of our products. Although we have a team allocated to authorize and monitor our ATCs, substantial resources and investment from us and each treatment center may be required. Additionally, the treatment center onboarding process can be complicated and requires extensive training, technical equipment, and coordination of processes. Once authorized, ATCs will be required to ensure that their training, facilities, and treatment capabilities are adequately maintained.

We have limited prior experience in the marketing, sale, and distribution of biopharmaceutical products, and there are significant risks involved in the building and managing of a commercial infrastructure. The establishment and development of commercial capabilities, including a comprehensive healthcare compliance program, to market any products we may develop will be expensive and time consuming and could delay any product launch, and we may not be able to successfully develop this capability. We, or our collaborators, will have to compete with other pharmaceutical and biotechnology companies to recruit, hire, train, manage, and retain marketing, sales, and commercial support personnel. Although we have developed a commercial infrastructure, in the event we are

unable to continue to develop a successful commercial infrastructure, we may not be able to commercialize our current or future product candidates, which would limit our ability to generate product revenues. Factors that may inhibit our efforts to commercialize our current or future products and product candidates and generate significant product revenues include:

- if a health epidemic or pandemic occurs it may negatively impact our ability to establish commercial operations, educate and interact with healthcare professionals, and successfully launch our product on a timely basis;
- the inability of sales personnel to obtain access to physicians or physicians do not prescribe our current or future product candidates;
- our inability to effectively oversee a geographically dispersed sales and marketing team;
- the costs and time associated with the initial and ongoing training of sales and marketing personnel on legal and regulatory compliance matters and monitoring their actions;
- an inability to secure adequate or any coverage and reimbursement by government and private health plans;
- the clinical indications for which the products are approved and the claims that we may make for the products;
- limitations or warnings, including distribution or use restrictions, contained in the products' approved labeling;
- any distribution and use restrictions imposed by the FDA or to which we agree as part of a mandatory REMS or voluntary risk management plan;
- liability for sales or marketing personnel who fail to comply with the applicable legal and regulatory requirements;
- the lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization or engaging a contract sales organization.

If our products or product candidates do not achieve broad market acceptance, the revenues that we generate from their sales will be limited.

Until the closing of the Proleukin® acquisition in May 2023, we had never commercialized a product candidate for any indication. Even after our products and product candidates are approved by the appropriate regulatory authorities for marketing and sale, they may not gain acceptance among physicians, patients, third-party payors, and others in the medical community. If any product or product candidate for which we obtain regulatory approval does not gain an adequate level of market acceptance, we may not generate significant product revenues or become profitable. Market acceptance of our products and product candidates by the medical community, patients, and third-party payors will depend on a number of factors, some of which are beyond our control. For example, physicians are often reluctant to switch their patients and patients may be reluctant to switch from existing therapies even when new and potentially more effective or safer treatments enter the market. Physicians and their patients may likewise make decisions about therapies based on cost and insurance coverage and reimbursement. Such reimbursement may be impacted by our ability to enter into single-case agreements (in the absence of a longer term agreement) with insurance companies, and the absence of any agreement or inadequate coverage or reimbursement may require patients to pay from their own funds, but the costs of our products may be prohibitive in such cases.

Efforts to educate the medical community and third-party payors on the benefits of our products and product candidates may require significant resources and may not be successful. If any of our products or product candidates does not achieve an adequate level of market acceptance, we may not generate significant revenues, and we may not become profitable. The degree of market acceptance of any of our products and product candidates will depend on a number of factors, including:

- the efficacy of our products and product candidates;
- the prevalence and severity of adverse events associated with such products or product candidates;
- the clinical indications for which the products are approved and the approved claims that we may make for the products;
- limitations or warnings contained in the approved product's FDA-required labeling, including potential limitations or warnings for such products that may be more restrictive than other competitive products;
- changes in the standard of care for the targeted indications for such products and product candidates;
- the relative difficulty of administration of such products and product candidates;
- cost of treatment versus economic and clinical benefit in relation to alternative treatments or therapies;
- the availability of adequate coverage or reimbursement by third parties, such as insurance companies and other healthcare payors, and by government healthcare programs, including Medicare and Medicaid;
- the extent and strength of our marketing and distribution of such products and product candidates;

- the safety, efficacy, and other potential advantages over, and availability of, alternative treatments already used or that may later be approved for any of our intended indications;
- distribution and use restrictions imposed by the FDA with respect to such products and product candidates or to which we agree as part of a mandatory REMS or voluntary risk management plan;
- the timing of market introduction of such products and product candidates, as well as competitive products;
- our ability to offer such products and product candidates for sale at competitive prices;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the extent and strength of our third-party manufacturer and supplier support;
- the approval of other new products for the same indications;
- adverse publicity about the product or favorable publicity about competitive products; and
- potential product liability claims.

Our efforts to educate the medical community and third-party payors on the benefits of our products and product candidates may require significant resources and may never be successful. Even if the medical community accepts that our products and product candidates are safe and effective for their approved indications and third-party payors provide coverage and reimbursement for the same, physicians and patients may not immediately be receptive to such products or product candidates and may be slow to adopt them as an accepted treatment of the approved indications. If our current or future products and product candidates are approved but do not achieve an adequate level of acceptance among physicians, patients, and third-party payors, we may not generate meaningful revenues from our product candidates, and we may not become profitable.

Our products and product candidates may face competition sooner than anticipated.

The enactment of the Biologics Price Competition and Innovation Act, or the BPCIA, created an abbreviated pathway for the approval of biosimilar and interchangeable biological products. The abbreviated regulatory pathway establishes legal authority for the FDA to review and approve biosimilar biologics, including the possible designation of a biosimilar as "interchangeable" based on its similarity to an existing brand product. Under the BPCIA, the FDA cannot make an approval of an application for a biosimilar product effective until 12 years after the original branded product was approved under a BLA. Certain changes, however, and supplements to an approved BLA, and subsequent applications filed by the same sponsor, manufacturer, licensor, predecessor in interest, or other related entity do not qualify for the 12-year exclusivity period.

Our products and product candidates may qualify for the BPCIA's 12-year period of exclusivity. However, there is a risk that the FDA will not consider our products and product candidates to be reference products for competing products, potentially creating the opportunity for biosimilar competition sooner than anticipated. Additionally, this period of regulatory exclusivity does not block companies pursuing regulatory approval via their own traditional BLA, rather than via the abbreviated pathway. Changes may also be made to this exclusivity period as a result of future legislation as there has been ongoing efforts to reduce the period of exclusivity. Even if we receive a period of BPCIA exclusivity for our first licensed product, if subsequent products do not include a modification to the structure of the product that impacts safety, purity, or potency, we may not receive additional periods of exclusivity for those products. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing. Medicare Part B encourages use of biosimilars by paying the provider the same percentage of the reference product, average sale price, or ASP as a mark-up, regardless of which product is reimbursed. It is also possible that payors will give reimbursement preference to biosimilars even over reference biologics absent a determination of interchangeability.

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

Any name we intend to use for our products and product candidates will require approval from the FDA and foreign regulatory authorities regardless of whether we have secured a formal trademark registration, including from the U.S. Patent and Trademark Office, or USPTO. The FDA and foreign regulatory authorities typically conduct a review of proposed product names, including an evaluation of the potential for confusion with other product names. The FDA and foreign regulatory authorities may also object to a product name if they believe the name inappropriately implies medical claims or contributes to an overstatement of efficacy. If the FDA or a foreign regulatory authority objects to any of our proposed proprietary product names, we may be required to adopt alternative names for our products and/or product candidates. If we adopt alternative names, we would lose the benefit of any existing trademark applications for such product and/or product candidate and may be required to expend significant additional resources in an effort to identify a suitable product name that would qualify under applicable trademark laws, not infringe the existing rights of third parties, and be acceptable to

the FDA and foreign regulatory authorities. We may be unable to build a successful brand identity for a new trademark in a timely manner or at all, which would limit our ability to commercialize our products and product candidates.

As a condition of approval, the FDA and foreign regulatory authorities may require that we implement various post-marketing requirements and conduct post-marketing studies, any of which would require a substantial investment of time, effort, and money, and which may limit our commercial prospects.

As a condition of biologic licensing, the FDA and foreign regulatory authorities are authorized to require that sponsors of approved BLAs implement various post-market requirements, including REMS and Phase 4 studies. For example, we reached an agreement with the FDA regarding a confirmatory trial to support the conversion from accelerated to full approval of Amtagvi® in post-anti-PD-1 advanced melanoma, which we refer to as TILVANCE-301. The randomized Phase 3 TILVANCE-301 trial has been ongoing since the fourth quarter of 2022. If we receive approval of additional product candidates, the FDA and foreign regulatory authorities may determine that similar or additional post-approval requirements are necessary to ensure that our product candidates are safe, pure, and potent. To the extent that we are required to establish and implement any post-approval requirements, we will likely need to invest a significant amount of time, effort, and money. Such post-approval requirements may also limit the commercial prospects of our products and product candidates.

We will need to grow the size and capabilities of our organization, and we may experience difficulties in managing this growth.

Our operations are dependent upon the services of our executives and our employees who are engaged in research and development. The loss of the services of our executive officers or senior research personnel could delay our product development programs and our research and development efforts. In order to develop our business in accordance with our business plan, we will have to hire additional qualified personnel, including in the areas of research, manufacturing, clinical trials management, regulatory affairs, and sales and marketing. We are continuing our efforts to recruit and hire the necessary employees to support our planned operations in the near term.

For example, we continue to recruit a new Chief Executive Officer. However, competition for qualified employees among companies in the biotechnology and biopharmaceutical industry is intense, and no assurance can be given that we will be able attract, hire, retain, and motivate the highly skilled employees that we need. Future growth will impose significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining, and motivating additional employees;
- managing our internal development efforts effectively, including the clinical and FDA review process for our product candidates, while complying with our contractual obligations to contractors and other third parties; and
- improving our operational, financial and management controls, reporting systems, and procedures.

Our future financial performance and our ability to commercialize our product candidates will depend, in part, on our ability to effectively manage any future growth, and our management may also have to divert a disproportionate amount of its attention away from day-to-day activities in order to devote a substantial amount of time to managing these growth activities.

We currently rely, and for the foreseeable future will continue to rely, in substantial part on certain independent organizations, advisors and consultants to provide certain services. There can be no assurance that the services of these independent organizations, advisors and consultants will continue to be available to us on a timely basis when needed, or that we can find qualified replacements. In addition, if we are unable to effectively manage our outsourced activities or if the quality, compliance or accuracy of the services provided by consultants is compromised for any reason, our clinical trials may be extended, delayed, or terminated, and we may not be able to obtain regulatory approval of our product candidates or otherwise advance our business. There can be no assurance that we will be able to manage our existing consultants or find other competent outside contractors and consultants on economically reasonable terms, if at all.

If we are not able to effectively expand our organization by hiring new employees and expanding our groups of consultants and contractors, we may not be able to successfully implement the tasks necessary to further develop and commercialize our product candidates and, accordingly, may not achieve our research, development, and commercialization goals on a timely basis, or at all.

We may rely on third parties to perform many essential services for any products that we commercialize, including services related to distribution, government price reporting, customer service, accounts receivable management, cash collection, and adverse event reporting. If these third parties fail to perform as expected or to comply with legal and regulatory requirements, our ability to commercialize our current or future products will be significantly impacted and we may be subject to regulatory sanctions.

We may retain third-party service providers to perform a variety of functions related to the sale and distribution of our current or future products, key aspects of which will be out of our direct control. These service providers may provide key services related to distribution, customer service, accounts receivable management, and cash collection. If we retain a service provider, we would substantially rely on it, as well as other third-party providers that perform services for us, including entrusting our inventories of products to their care and handling. If these third-party service providers fail to comply with applicable laws and regulations, fail to meet expected deadlines, or otherwise do not carry out their contractual duties to us, or encounter physical or natural damage at their facilities, our ability to deliver product to meet commercial demand would be significantly impaired and we may be subject to regulatory enforcement action. Moreover, these agreements might terminate for a variety of reasons. If we fail to enter into alternative arrangements, this could further delay the commercialization of our products and adversely affect our business.

In addition, we may engage third parties to perform various other services for us relating to adverse event reporting, safety database management, fulfillment of requests for medical information regarding our product candidates and related services. If the quality or accuracy of the data maintained by these service providers is insufficient, or these third parties otherwise fail to comply with regulatory requirements related to adverse event reporting, we could be subject to regulatory sanctions.

Additionally, we may contract with a third-party to calculate and report pricing information mandated by various government programs. If a third party fails to timely report or adjust prices as required or errs in calculating government pricing information from transactional data in our financial records, it could impact our discount and rebate liability, and potentially subject us to regulatory sanctions or False Claims Act lawsuits.

We may be unable to successfully or sufficiently expand our manufacturing capacity to meet demand for our products.

As noted above, we have limited experience in internal manufacturing our adoptive cell therapy product candidates on a commercial scale, as do our partners. We anticipate expanding internal manufacturing capacity at our *i*CTC facility and potentially at our contract manufacturer, WuXi. Scale-up of manufacturing may require additional validation studies, including capacity demonstration and/or comparability studies, each of which are subject to regulatory review, potential inspection, and approval. Moreover, while we continue to expand our internal manufacturing capacity, the current geopolitical tensions with China may impact our ability to expand manufacturing capacity at our contract manufacturer, WuXi. Recently, the Biden administration has signed multiple executive orders regarding China. One particular executive order titled Advancing Biotechnology and Biomanufacturing Innovation for a Sustainable, Safe, and Secure American Bioeconomy, signed on September 12, 2022, will likely impact the pharmaceutical industry to encourage U.S. domestic manufacturing of pharmaceutical products. Additionally, in February 2024, the chair and ranking member of the House Select Committee on the Chinese Communist Party, Representatives Mike Gallagher and Raja Krishnamoorthi, respectively, along with Senators Gary Peters and Bill Hagerty, sent a letter to the Biden administration requesting that both WuXi AppTec Co., Ltd., WuXi's parent company, and the affiliated WuXi Biologics be added to the Department of Defense's Chinese Military Companies List (1260H list), the Department of Commerce's Bureau of Industry and Security Entity List, and the Department of Treasury's Non-SDN Chinese Military-Industrial Complex Companies List. While the Biden administration did not take action on this letter, adding either or both previously mentioned WuXi entities on any or all of the aforementioned lists could materially impact our MSA with WuXi, and the current Trump administration could take action with regard to such letter. The new administration may also enact regulations or policies that affect trade with China or otherwise impact the biopharmaceutical industry by enacting laws to restrict U.S. biopharmaceutical companies from contracting with Chinese companies on the development, research or manufacturing of biopharmaceutical products. Any additional executive orders, legislative action or potential sanctions on China could materially impact our current manufacturing partners. Finally, there have been Congressional legislative proposals, such as a bill titled the BIOSECURE Act, to discourage contracting with certain Chinese companies, including two WuXi affiliates, on the development or manufacturing of pharmaceutical products. The BIOSECURE Act passed the U.S. House of Representatives on September 9, 2024. The version of the BIOSECURE Act that passed the U.S. House of Representatives included a grandfather clause that would allow contracts entered into with the Chinese companies named therein prior to the effective date of such legislation to survive until January 1, 2032. The BIOSECURE Act did not pass the U.S. Senate before expiring, thus not becoming law, but support for the legislation remains, and the current Trump administration has promised to take a hard line on Chinese entities. While WuXi has recently entered into an agreement to be acquired by Altaris LLC, or Altaris, there is no guarantee that they will complete the transaction or that, after the transaction is completed, we will be able to continue to utilize their contract manufacturing services, as Altaris and its subsidiary Minaris Regenerative Medicine LLC, or Minaris, have limited resources and lack experience in supplying high volume commercial cell therapies for oncology

indications. As a result, we may need to discontinue use of the WuXi manufacturing capacity and instead use the *i*CTC facility or other manufacturers to supply our therapies.

Regardless, any expansion of our internal and external manufacturing capability will also require us to invest substantial additional funds to hire and retain the technical personnel who have the necessary manufacturing experience. As a result, we may not be able to successfully or sufficiently increase the manufacturing capacity for our product candidates or modify our manufacturing processes. If we are unable to successfully increase the manufacturing capacity for a product candidate (as a result of lack of approval from, or capacity limitations imposed by, the FDA, or otherwise), the resulting capacity limitations could have a material adverse effect on our results of operations and financial condition. In addition, if we are unable to successfully or sufficiently increase the manufacturing capacity at the *i*CTC facility to meet demand in a timely or economic manner, or at all, we may be dependent upon the performance and capacity of third-party manufacturers. Accordingly, we face risks of capacity limitations of, difficulties with, increased costs of, and interruptions in performance by third-party manufacturers, the occurrence of which could negatively impact the availability, launch, and/or sales of our products in the future, as well as on our results of operations and financial condition. While we have agreements in place with such third-party manufacturers, we have limited influence over their actual performance and control only certain aspects of their activities. The failure of these third parties to successfully carry out their contractual duties or meet expected deadlines or quality standards could substantially harm our business. Moreover, these agreements might terminate for a variety of reasons. If we fail to enter into alternative arrangements, this could further delay our product development and adversely affect our business. For example, BI carries out the processing, manufacturing, and supply of Proleukin® pursuant to a manufacturing and supply agreement, which includes a two-year notice of termination provision. In the event that such notice of termination is given, it may be unlikely that we execute a new manufacturing and supply agreement with a manufacturer to run the processing, manufacturing, and supply of Proleukin® within that time frame.

Risks Related to the Development of Our Product Candidates

We depend on the success of our product candidates and cannot guarantee that these product candidates will successfully complete development, receive regulatory approval, or be successfully commercialized.

We currently have two products approved for commercial sale. We have invested a significant portion of our efforts and financial resources in the development of our current product and/or product candidates, including Amtagvi®, lifileucel, and modified product candidates, IOV-4001, IOV-2001, IOV-3001, and IOV-5001, and expect that we will continue to invest heavily in our current product candidates, as well as in any future product candidates we may develop. Our business depends on the successful development and commercialization of our product candidates. Our ability to generate revenues in the future is substantially dependent on our ability to develop, obtain regulatory approval for, and then successfully commercialize our product candidates. We currently generate no revenue from the sale of any products that are in development, and we may never be able to develop or commercialize these potential products.

Our product candidates will require additional clinical and non-clinical development, regulatory approval, commercial manufacturing arrangements, establishment of a commercial organization, significant marketing efforts, and further investment before we generate any revenue from product sales. We cannot assure you that we will meet our timelines for our current or future clinical trials, which may be delayed or not completed for a number of reasons, including the continuing negative impact of the COVID-19 pandemic and any future pandemic or epidemic. Additionally, the costs associated with development of cell therapy products may be significant due to the length of treatment and the supportive therapies provided to the patient during the treatment process. Supportive therapies may impact costs and patient viability and may potentially limit availability.

We are not permitted to market or promote any of our product candidates before we receive regulatory approval from the FDA or comparable foreign regulatory authorities, and we may never receive such regulatory approval for many of our product candidates or regulatory approval that will allow us to successfully commercialize our product candidates. If we do not receive FDA approval with the necessary conditions to allow successful commercialization, and then successfully commercialize our product candidates, we will not be able to generate revenue from those product candidates in the U.S. in the foreseeable future, or at all. Any significant delays in obtaining approval for and commercializing our product candidates will have a material adverse impact on our business and financial condition.

Our products rely on coordination and collaboration with treatment centers that perform surgical procedures, obtain and provide lymphodepleting chemotherapy, and deliver other care to patients that are often in poor health as a result of the latter stages of cancer. This coordination of care is complicated in both the clinical trial setting and the commercial setting. Our treatment centers may not be able to obtain necessary supplies, such as lymphodepleting chemotherapy agents, because of shortages. Our commercial products and investigational therapies will rely heavily on our ability to train centers and the centers' ability to choose suitable patients and deliver a

complex regimen. We may be reliant on physicians with limited experience with TIL products and the associated regimens. Although we will make efforts to train hospitals and provide processes that must be followed precisely, there is no way to ensure that all institutions will be able to perform at a high level in all aspects of the coordination of care. Patients may progress in the course of their disease or may experience serious adverse events from our products or supportive regimens while undergoing or awaiting treatment with our therapies.

Prior to our completion of a rolling BLA submission for lifileucel in March 2023 and its acceptance by the FDA in May 2023 and accelerated approval in February 2024, we had not previously submitted a BLA to the FDA, or a similar marketing application to comparable foreign authorities, for any product candidate, and we cannot be certain that our current or any future product candidates will be successful in clinical trials or receive regulatory approval. Furthermore, although we have not submitted our BLA with comparisons to existing or more established therapies and likewise do not expect the FDA to base its determination with respect to product approval on such comparisons, the FDA may factor these comparisons into its decision whether to approve our TIL cell therapies. The FDA may also consider its approvals of competing products, which may alter the treatment landscape concurrently with their review of our BLA filings, and which may lead to changes in the FDA's review requirements that have been previously communicated to us and our interpretation thereof, including changes to requirements for clinical data or clinical trial design. Such challenges and variabilities could delay approval or necessitate withdrawal of our BLA filings.

Our product candidates are susceptible to the risks of failure inherent at any stage of product development, including the appearance of unexpected adverse events or failure to achieve primary endpoints in clinical trials. Further, our product candidates may not receive regulatory approval even if they are successful in clinical trials.

If approved for marketing by applicable regulatory authorities, our ability to generate revenues from our product candidates will depend on our ability to:

- price our product candidates competitively such that third-party and government reimbursement leads to broad product adoption;
- prepare a broad network of clinical sites (*e.g.*, ATCs) for administration of our product;
- train and monitor sites for product delivery and consistent flow of appropriate patients;
- create market demand for our product candidates through our own marketing and sales activities, as well as through other arrangements with third parties marketing or selling on our behalf;
- receive regulatory approval for the targeted patient population(s) and claims that are necessary or desirable for successful marketing;
- obtain the necessary regulatory approvals to deliver the therapies to a sufficiently sized patient population;
- effectively commercialize our products;
- manufacture product candidates through CMOs or in our own manufacturing facility in sufficient quantities and at acceptable quality and manufacturing cost to meet commercial demand at launch and thereafter;
- establish and maintain agreements with wholesalers, distributors, pharmacies, and group purchasing organizations on commercially reasonable terms;
- maintain patent and trade secret protection and regulatory exclusivity for our product candidates;
- launch commercial sales of our product candidates;
- maintain compliance with applicable laws, regulations, and guidance specific to commercialization, including interactions with health care professionals, patient advocacy groups, and communication of health care economic information to payors and formularies;
- achieve market acceptance of our product candidates by patients, the medical community, and third-party payors;
- obtain appropriate coverage and reimbursement for our product candidates, including at rates that will enable the market to adopt our products and enable sites to deliver the entire therapy to patients;
- partner with third party logistics providers that will successfully distribute our products;
- maintain a distribution and logistics network capable of product storage within our specifications and regulatory guidelines, and further capable of timely product delivery to commercial clinical sites;
- effectively compete with other therapies or competitors; and
- following launch, ensure that our product will be used as directed and that additional unexpected safety risks will not arise.

Development of a product candidate intended for use in combination with an already approved product may present more or different challenges than development of a product candidate for use as a single agent.

Amtagvi® received accelerated approval from the FDA, and we are currently developing lifileucel in clinical trials as part of a regimen which uses lymphodepletion and IL-2. We and our collaborators are also developing TIL cell therapy along with other products, such as pembrolizumab, ipilimumab and nivolumab. The development of product candidates for use in combination with another product may present challenges. For example, the FDA may require us to use more complex clinical trial designs, in order to evaluate the contribution of each product and product candidate to any observed effects. It is possible that the results of these clinical trials could show that any positive results are attributable to the already approved product. Moreover, following product approval, the FDA may require that products used in conjunction with each other be cross labeled for combined use. Additionally, the FDA review process can be more complicated for combination products, and may result in delays, particularly if complex therapeutics are involved. To the extent that we do not have rights to already approved products, this may require us to work with another company to satisfy such a requirement. Moreover, developments related to the already approved products may impact our clinical trials for the combination, as well as our commercial prospects should we receive marketing approval. Such developments may include changes to the approved product's safety or efficacy profile, changes to the availability of the approved product, and changes to the standard of care.

A Fast Track, breakthrough therapy, or regenerative medicines advanced therapy product designations, or other designation to facilitate product candidate development may not lead to faster development or a faster regulatory review or approval process, and it does not increase the likelihood that our product candidates will receive marketing approval.

We were granted Fast Track designation by the FDA for lifileucel in metastatic melanoma and metastatic cervical cancer, as well as for lifileucel in combination with pembrolizumab in advanced melanoma. We were granted breakthrough therapy designation, or BTD, for lifileucel for metastatic cervical cancer and RMAT designation for lifileucel in advanced melanoma. We may seek Fast Track or Breakthrough designation for other of our current or future product candidates. Receipt of a designation to facilitate product candidate development is within the discretion of the FDA. Accordingly, even if we believe one of our product candidates meets the criteria for a designation, the FDA may disagree. In any event, the receipt of such a designation for a product candidate may not result in a faster development process, review, or approval compared to product candidates considered for approval under conventional the FDA procedures and does not assure ultimate marketing approval by the FDA. In addition, the FDA may later decide that the products no longer meet the designation conditions.

While lifileucel has received orphan drug designation for melanoma stages IIB-IV and for cervical cancer patients with tumors greater than 2 cm, there is no guarantee that we will be able to maintain this designation, receive these designations for any of our other product candidates, or receive or maintain any corresponding benefits, including periods of exclusivity.

We received orphan drug designation, or ODD, in the U.S. for lifileucel to treat malignant melanoma stages IIB-IV and cervical cancer patients with tumors greater than 2 cm. We may also seek ODD for our other product candidates, as appropriate. ODD, however, may be lost if the indication for which we develop our designated product candidates does not meet the orphan criteria. Moreover, following product approval, orphan exclusivity may be lost if the FDA determines, among other reasons, that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of patients with the rare disease or condition. Even if we obtain orphan exclusivity, that exclusivity may not effectively protect the product from competition because different products can be approved for the same condition and the same product can be approved for different conditions. Even after an orphan product is approved, the FDA can subsequently approve a product containing the same principal molecular features for the same condition if the FDA concludes that the later product is clinically superior in that it is shown to be safer or more effective or makes a major contribution to patient care.

Moreover, the FDA may grant ODDs to multiple of the same products for the same indication. If another sponsor receives FDA approval for an ODD-designated product that is the same as our product candidates and intended for the same indication before we do, we would be prevented from launching our product in the U.S. for this indication for a period of at least 7 years. In response to a court decision regarding the plain meaning of the exclusivity provision of the Orphan Drug Act, the FDA may undertake a reevaluation of aspects of its orphan drug regulations and policies. We do not know if, when, or how the FDA may change the orphan drug regulations and policies, and it is uncertain how any changes might affect our business. Depending on what changes the FDA may make to its orphan drug regulations and policies, our business, financial condition, results of operations, and prospects could be harmed.

Risks Related to Clinical Trials

We may face risks due to the need to rely on third parties, including clinical trial sites.

We are heavily reliant on third parties to conduct our clinical trials. We have a limited history of conducting clinical trials and as a company in filing and supporting the applications necessary to gain marketing approvals. Securing marketing approval requires the submission of extensive preclinical and clinical data and supporting information to regulatory authorities for each therapeutic indication to establish the product candidate's safety, purity, and potency for that indication. Securing marketing approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities and clinical trial sites by, applicable regulatory authorities. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. As a result of the continuing impact of the COVID-19 pandemic, institutions and research sites that currently conduct clinical trials may not be able to return to normal clinical trial operations for some time or may no longer choose to participate in studies in the future. Furthermore, clinical trials may be delayed or otherwise may be more difficult to execute in the future.

We have recruited a team that has experience with clinical trials and in the development of preclinical assets for translation into clinical trials; however, we as a company have limited experience completing pivotal clinical trials for cell therapy products or developing preclinical immunotherapy products. In part because of this lack of experience, we cannot be certain that our ongoing pivotal clinical trials will be completed on time, if at all, that they will progress according to our plans or expectations, or that our planned clinical trials will be initiated or initiated in a timely manner, progress according to our plans or expectations, or be completed on time, if they are completed at all.

Large-scale clinical trials require significant financial and management resources, and reliance on third-party clinical investigators, CROs, CMOs, or consultants. Relying on third-party clinical investigators, CROs, or CMOs may force us to encounter delays and challenges that are outside of our control. In addition to manufacturing TIL at the *i*CTC, we rely on a CMO in the U.S. and Europe to manufacture TIL for use in our clinical trials and commercial use upon approval. We may not be able to demonstrate sufficient comparability between products manufactured at different facilities to allow for inclusion of the clinical results from patients treated with products from these different facilities, or with our own manufacturing facility, in our product registrations, or to allow for use of the *i*CTC at the time of launch. Further, our CMOs may not be able to manufacture TIL or otherwise fulfill their obligations to us because of interruptions to their business, including the loss of their key staff or interruptions to their raw material supply.

We rely on third party CROs and clinical trial sites to conduct, supervise, and monitor our clinical trials for our product candidates. We expect to continue to rely on third parties, such as CROs, clinical data management organizations, medical institutions, independent review organizations and clinical investigators, to conduct our clinical trials. While we have agreements governing their activities, we have limited influence over their actual performance and control only certain aspects of their activities. The failure of these third parties to successfully carry out their contractual duties or meet expected deadlines could substantially harm our business because we may be delayed in completing or unable to complete the clinical trials required to support future approval of our product candidates, or we may not obtain marketing approval for or commercialize our product candidates in a timely manner or at all. Moreover, these agreements might terminate for a variety of reasons, including a failure to perform by the third parties. If we need to enter into alternative arrangements, that could delay our product development activities and adversely affect our business.

Our reliance on these third parties for development activities will reduce our control over these activities. Nevertheless, we are responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol, legal, regulatory, and scientific standards and our reliance on the CROs, clinical trial sites, and other third parties do not relieve us of these oversight responsibilities. For example, we will remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the clinical trial and for ensuring that our preclinical studies are conducted in accordance with Good Laboratory Practices, or GLPs, as appropriate. Moreover, the FDA and comparable foreign regulatory authorities require us to comply with Good Clinical Practices, or GCPs, for conducting, recording, and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity, and confidentiality of clinical trial participants are protected. Regulatory authorities enforce these requirements through periodic inspections (including pre-approval inspections upon completion of a BLA filing with the FDA) of clinical trial sponsors, clinical investigators, clinical trial sites and certain third parties including CMOs. If we, our CROs, clinical trial sites, or other third parties fail to comply with applicable GCPs, or other regulatory requirements, we or they may be subject to enforcement or other legal actions, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials comply with GCP regulations.

In addition, our clinical trials must be conducted with product candidates that were produced under cGMP. Our failure to comply or our CMOs' failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process. We also are required to register certain clinical trials and post the results of certain completed clinical trials on a government sponsored database, ClinicalTrials.gov, within specified timeframes. Failure to do so could result in enforcement actions and adverse publicity. In the EU, revised transparency rules for clinical trials became applicable with the launch of the new Clinical Trials Information System, or CTIS. The CTIS is the online system for the regulatory submission, authorization, and supervision of clinical trials conducted in the EU/European Economic Area, or EEA, under Regulation (EU) 536/2014. Data of all clinical trials conducted in the EU/EEA – including their results – must be submitted to the CTIS and are made publicly available, unless a specific exemption applies.

Our CROs, clinical trial sites, and other third parties may also have relationships with other entities, some of which may be our competitors, for whom they may also be conducting clinical trials or other therapeutic development activities that could harm our competitive position. In addition, these third parties are not our employees, and except for remedies available to us under our agreements with them, we cannot control whether or not they devote sufficient time and resources to our ongoing clinical, non-clinical, and preclinical programs. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our clinical trials in accordance with regulatory requirements or our stated protocols, if they need to be replaced or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our protocols, regulatory requirements or for other reasons, our clinical trials may be repeated, extended, delayed, or terminated and we may not be able to obtain, or may be delayed in obtaining, marketing approvals for our product candidates and will not be able to, or may be delayed in our efforts to, successfully commercialize our product candidates, or we or they may be subject to regulatory enforcement actions. As a result, our results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenues could be delayed. To the extent we are unable to successfully identify and manage the performance of third-party service providers in the future, our business may be materially and adversely affected.

If any of our relationships with these third parties terminate, we may not be able to enter into alternative arrangements or do so on commercially reasonable terms. Switching or adding additional contractors involves additional costs and requires management time and focus. In addition, there is a natural transition period when a new third party commences work. As a result, delays could occur, which could compromise our ability to meet our desired development timelines. Though we carefully manage our relationships with our third-party service providers, 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 or results of operations.

We also rely on other third parties to manufacture and ship our products for the clinical trials that we conduct. Any performance failure on the part of these third parties could delay clinical development or marketing approval of our product candidates or commercialization of our product candidates, if approved, producing additional losses and depriving us of potential product revenue.

We may encounter substantial delays in our clinical trials, not be able to conduct our clinical trials on the timelines we expect, and be required to conduct additional clinical trials or modify current or future clinical trials based on feedback we receive from the FDA and foreign regulatory authorities.

Clinical testing is expensive, time consuming, and subject to uncertainty. We cannot guarantee that any current or future clinical trials will be conducted as planned or completed on schedule, if at all, or that any of our product candidates will receive regulatory approval. We initiated clinical trials in patients with metastatic melanoma, cervical, head and neck, and non-small cell lung cancers, and in other indications in collaboration with third parties. We completed enrollment in the pivotal clinical trial for melanoma, C-144-01, and in June 2022, we announced that initial Cohort 4 data read by the independent review committee, or IRC, met the primary endpoint in this clinical trial. In March 2023, we completed submission of our BLA to the FDA for the treatment of adult patients with metastatic melanoma for approval, and the FDA accepted the BLA in May 2023. We obtained BLA approval on February 16, 2024. We plan to initiate clinical trials in new indications and new cohorts in existing clinical trials. Even as these clinical trials progress, issues may arise that could require us to suspend or terminate such clinical trials or could cause the results of one cohort to differ from a prior cohort. For example, we may experience slower than anticipated enrollment in our additional pivotal clinical trials, which may consequently delay BLA submissions to the FDA or permit competitors to obtain approvals that may alter our BLA filing strategy. Additionally, temporary or permanent clinical holds could be placed on our clinical trials for a variety of reasons. For instance, on December 22, 2023, the FDA placed a clinical hold on the IOV-LUN-202 trial in response to a reported Grade 5 (fatal) serious adverse event potentially related to the non-myeloablative lymphodepletion pre-conditioning regimen, and we paused enrollment and the lifileucel treatment regimen for new patients in IOV-LUN-202 during the clinical hold. On March 4, 2024, the FDA lifted the partial clinical hold on the IOV-LUN-202 trial, permitting us to resume patient enrollment. A failure of one or more clinical trials can occur at any stage of testing, and our future

clinical studies may not be successful. Events that may prevent successful or timely initiation or completion of clinical development, or product approval include:

- regulators or IRBs may not authorize us or our investigators to commence a clinical trial, conduct a clinical trial at a prospective clinical trial site, or amend clinical trial protocols, or regulators or IRBs may require that we modify or amend our clinical trial protocols;
- delays in reaching a consensus or inability to obtain agreement with regulatory agencies on clinical trial design;
- the FDA or comparable foreign regulatory authorities may disagree with our intended indications, clinical trial design or our interpretation of data from preclinical studies and clinical trials or find that a product candidate's benefits do not outweigh its safety risks;
- the FDA or comparable foreign regulatory authorities may not accept data from studies with clinical trial sites in foreign countries;
- the FDA may not allow us to use the clinical trial data from a research institution to support an IND if we cannot demonstrate the comparability of our product candidates with the product candidate used by the relevant research institution in its clinical trials;
- delays in or failure to reach an agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites;
- delays in obtaining required IRB approval at each clinical trial site;
- imposition of a temporary or permanent clinical hold, suspensions or terminations by regulatory agencies, IRBs, or us for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks, undesirable side effects, or other unexpected characteristics of the product candidate, or due to findings of undesirable effects caused by a biologically or mechanistically similar therapeutic or therapeutic candidate;
- delays in recruiting suitable patients to participate in our clinical trials;
- delay in adding new investigators or clinical trial sites, or withdrawal of clinical trial sites from a clinical trial;
- delay or change in strategic direction for an indication resulting from differences in results between cohorts in a clinical trial, such as the previously disclosed preliminary results for the C-145-04 clinical trial and the final patient population and results, including differences in patient population, such as differences that might arise due to the impact of the existing immunotherapy treatment landscape, or from different interpretations of investigator results by IRC;
- failure by our CROs, clinical trial sites, patients, or other third parties, or us to adhere to clinical trial requirements, including regulatory, contractual or protocol requirements;
- failure to perform in accordance with the FDA's cGCP requirements or applicable regulatory guidelines in other countries;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate or enrollment in these clinical trials may be slower than we anticipate, potentially affecting our timelines for approval of our product candidates;
- patients that enroll in our studies may misrepresent their eligibility or may otherwise not comply with the clinical trial protocol, resulting in the need to drop such patients from the clinical trial, increase the needed enrollment size for the clinical trial or extend the clinical trial's duration;
- patients dropping out of a clinical trial;
- occurrence of adverse events associated with the product candidate that are viewed to outweigh its potential benefits;
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols to regulatory authorities and IRBs, and which may cause delays in our development programs, or changes to regulatory review times;
- there may be regulatory questions or disagreements regarding interpretations of data and results, or new information may emerge regarding our product candidates;
- changes in the standard of care on which a clinical development plan was based, which may require new or additional clinical trials;
- the cost of clinical trials of our product candidates being greater than we anticipate, or we may have insufficient funds for a clinical trial or to pay the substantial user fees required by the FDA upon the filing of a BLA;
- clinical trials of our product candidates producing negative or inconclusive results may fail to provide sufficient data and information to support product approval, or our studies may fail to reach the necessary level of statistical or clinical significance, which may result in our deciding, or regulators requiring us, to conduct additional clinical trials studies, or preclinical studies, or abandon product development programs;
- early results from our clinical trials of our product candidates may be negatively affected by changes in efficacy measures such as overall response rate and duration of response as more patients are enrolled in our clinical trials or as new cohorts of

our clinical trials are tested, and overall response rate and duration of response may be negatively affected by the inclusion of unconfirmed responses in preliminary results that we report if such responses are not later confirmed;

- we may not be able to demonstrate that a product candidate provides an advantage over current standards of care or current or future competitive therapies in development;
- there may be changes to the therapeutics or their regulatory status which we are administering in combination with our product candidates;
- delays in patient enrollment due to potential health epidemics, such as the COVID-19 pandemic;
- the FDA or comparable foreign regulatory authorities may fail to approve or subsequently find fault with the manufacturing processes or our manufacturing facilities for clinical and future commercial supplies;
- the FDA or comparable regulatory authorities may take longer than we anticipate when making a decision on our product candidates and prolonged government shutdowns, inadequate funding, loss of employees, changes in regulations or policies by the new U.S. administration or other disruptions may occur at the FDA, and thus, final FDA approval of our product candidates may be further delayed;
- transfer of our manufacturing processes to our CMOs or other larger-scale facilities operated by a CMO or by us and delays or failures by our CMOs or us to make any necessary changes to such manufacturing process;
- our use of different manufacturing processes within our clinical trials, including our Gen 1 and Gen 2 manufacturing processes, and any effects that may result from the use of different processes on the clinical data that we have reported and will report in the future; and
- delays in manufacturing, testing, releasing, validating, or importing/exporting sufficient stable quantities of our product candidates for use in clinical trials or the inability to do any of the foregoing, including as a result of any quality issues associated with the contract manufacturer.

If prolonged government shutdowns, inadequate funding, loss of employees, changes in regulations or policies by the new U.S. administration or other disruptions were to occur at the FDA, final FDA approval of our product candidates may be delayed. The ability of the FDA and other government agencies to review and approve new or modified products can be affected by a variety of factors, including government budget and funding levels, statutory, regulatory and policy changes, a government agency's ability to hire and retain key personnel and accept the payment of user fees, and other events that may otherwise affect the government agency's ability to perform routine functions. Average review times at the FDA and other government agencies have fluctuated in recent years as a result. For example, over the last several years, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA and SEC, have had to furlough critical employees and stop critical activities. In addition, government funding of 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. Such disruptions at the FDA and other agencies may also increase the time necessary for new drugs or modifications to approved drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect our business.

We also may conduct clinical and preclinical research in collaboration with other academic, pharmaceutical, biotechnology and biologics entities in which we combine our technologies with those of our collaborators. Such collaborations may be subject to additional delays because of the management of the clinical trials, contract negotiations, the need to obtain agreement from multiple parties, and the necessity of obtaining additional approvals for therapeutics used in the combination clinical trials. These combination therapies will require additional testing and clinical trials will require additional regulatory approval and will increase our future cost of expenses.

Any inability to successfully complete preclinical and clinical development could result in additional costs to us or impair our ability to generate revenue. In addition, if we make manufacturing changes to our product candidates, we may be required to, or we may elect to, conduct additional studies to bridge our modified product candidates to earlier versions. These changes may require regulatory approval or notification, may not have their desired effect, or the FDA or foreign regulatory authorities may not accept data from prior versions of the product to support an application, delaying our clinical trials or programs or necessitating additional clinical trials or preclinical studies. For example, while our first BLA submission includes our Gen 2 manufacturing process, in the future we may seek to commercialize other manufacturing processes, such as our Gen 3 manufacturing process or our PD-1 selected TIL manufacturing process. We may find that commercialization of these manufacturing processes has unintended consequences that necessitate additional development and manufacturing work or additional clinical trials and preclinical studies, or results in non-approval of a BLA.

Clinical trial delays could shorten any periods during which our products have patent protection and may allow our competitors to bring products to market before we do, which could impair our ability to successfully commercialize our product candidates and may harm our business and results of operations.

Regulatory authorities 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. The number and types of preclinical studies and clinical trials that will be required for regulatory approval also varies depending on the product candidate, the disease or condition that the product candidate is designed to address, and the regulations applicable to any particular product candidate. Approval policies, regulations or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. It is possible that any product candidates we may seek to develop in the future will never obtain the appropriate regulatory approvals necessary for us or any future collaborators to commence product sales. Any delay in completing development, obtaining or failure to obtain required approvals could also materially adversely affect our ability or that of any of our collaborators to generate revenue from any such product candidate, which likely would result in significant harm to our financial position and adversely impact our stock price.

It may take longer and cost more to complete our clinical trials than we project, or we may not be able to complete them at all.

For budgeting and planning purposes, we have projected the date for the commencement of future clinical trials, and continuation and completion of our ongoing clinical trials. However, a number of factors, including scheduling conflicts with participating clinicians and clinical institutions, and difficulties in identifying and enrolling patients who meet clinical trial eligibility criteria, may cause significant delays. We may not commence or complete clinical trials involving any of our products as projected or may not conduct them successfully.

We are currently conducting eight company-sponsored clinical trials to assess the overall safety and efficacy of Iovance TIL monotherapy and TIL combinations in patients with melanoma, cervical, endometrial, head and neck, and lung cancers across late-line and early treatment settings, as well as our genetically modified TIL cell therapy IOV-4001 and our peripheral blood lymphocyte, or PBL, technology for hematological malignancies. However, we may experience difficulties in patient enrollment in our clinical trials for a variety of reasons. Our ability to enroll or treat patients in our other studies, or the duration or costs of those studies, could be affected by multiple factors, including, preliminary clinical results, which may include efficacy and safety results from our ongoing Phase 2 studies, but may not be reflected in the final analyses of these clinical trials.

For example, our current clinical trials utilize an "open-label" trial design. An open-label trial is one where both the patient and investigator know whether the patient is receiving the test article or either an existing approved drug or placebo, which has the potential to create selection bias in the investigators. In our Phase 2 open-label studies, the investigators have significant discretion over the selection of patient participants. Although preliminary data from certain clinical trials were generally positive, that data may not necessarily be representative of interim or final results, as new patients are cycled through the applicable treatment regimes. As the clinical trials continue, the investigators may prioritize patients with more progressed forms of cancer than the initial patient population, based on the success or perceived success of that initial population. Patients with more progressed forms of cancer may be less responsive to treatment, and accordingly, interim efficacy data may show a decline in patient response rate or other assessment metrics. As the trials continue, investigators may shift their approach to the patient population, which may ultimately result in a decline in both interim and final efficacy data from the preliminary data, or conversely, an increase in final efficacy data following a decline in the interim efficacy data, as patients with more progressed forms of cancer are cycled out of the clinical trials and replaced by patients with less advanced forms of cancer. This opportunity for investigator selection bias in our clinical trials as a result of open-label design may not be adequately handled and may cause a decline in or distortion of clinical trial data from our preliminary results. Depending on the outcome of our open-label studies, we may need to conduct one or more follow-up or supporting studies in order to successfully develop our products for regulatory approval. Many companies in the biotechnology, pharmaceutical, and medical device industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in earlier development, and we cannot be certain that we will not face such setbacks.

Furthermore, the timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the clinical trial until its conclusion, including the ability of us or our collaborators to conduct clinical trials under the constraints of the COVID-19 pandemic. 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 clinical trials may instead opt to enroll in a clinical trial being conducted by one of our competitors. Accordingly, we cannot guarantee that the clinical trial will progress as planned or as scheduled. Delays in patient enrollment may result in increased costs or may affect the timing or outcome of our ongoing clinical trial and planned clinical trials, which could prevent completion of these clinical trials and adversely affect our ability to advance the development of our product candidates.

We expect to rely on medical institutions, academic institutions, or CROs to conduct, supervise or monitor some or all aspects of clinical trials involving our products. We will have less control over the timing and other aspects of these clinical trials than if we

conducted them entirely on our own. If we fail to commence or complete, or experience delays in, any of our planned clinical trials, our stock price and our ability to conduct our business as currently planned could be harmed.

We currently anticipate that we will have to rely on our CMO to supplement the manufacturing capacity at the *i*CTC in manufacturing our adoptive cell therapy and biologic products for clinical trials. If they fail to commence or complete, or experiences delays in, manufacturing our adoptive cell therapy and other biologic products, our planned clinical trials will be delayed, which will adversely affect our stock price and our ability to conduct our business as currently planned.

Clinical trials are expensive, time-consuming and difficult to design and implement, and our clinical trial costs may be higher than for more conventional therapeutic technologies or drug products.

Clinical trials are expensive and difficult to design and implement, in part because they are subject to rigorous regulatory requirements. Because our product candidates include candidates based on new cell therapy technologies and manufactured on a patient-by-patient basis, we expect that they will require extensive research and development and have substantial manufacturing costs. In addition, costs to treat patients with relapsed/refractory cancer and to treat potential side effects that may result from our product candidates can be significant. Some clinical trial sites may not bill, or obtain coverage from Medicare, Medicaid, or other third-party payors for some or all of these costs for patients enrolled in our clinical trials, and we may be required by those clinical trial sites to pay such costs. Accordingly, our clinical trial costs are likely to be significantly higher per patient than those of more conventional therapeutic technologies or drug products. In addition, our proposed personalized product candidates involve several complex and costly manufacturing and processing steps, the costs of which will be borne by us. We are also responsible for the manufacturing costs of products for patients that may have a tumor resection but ultimately do not receive an infusion. Depending on the number of patients that we ultimately screen and enroll in our clinical trials, and the number of clinical trials that we may need to conduct, our overall clinical trial costs may be higher than for more conventional treatments.

Our clinical trials may fail to demonstrate adequately the safety and efficacy of our product candidates, which would prevent or delay regulatory approval and commercialization.

The clinical trials of our product candidates are, and the manufacturing and marketing of our products is, subject to extensive and rigorous review and regulation by numerous government authorities in the U.S. and in other countries where we intend to test and market our product candidates. Before obtaining additional regulatory approvals for the commercial sale of any of our product candidates, we must demonstrate through lengthy, complex and expensive preclinical testing and clinical trials that our product candidates are both safe and effective for use in each target indication. Because our product candidates are subject to regulation as biological drug products, we will need to demonstrate that they are safe, pure, and potent for use in their target indications. Each product candidate must demonstrate an adequate risk versus benefit profile in its intended patient population and for its intended use. The risk/benefit profile required for product licensure will vary depending on these factors and may include not only the ability to show tumor shrinkage, but also adequate duration of response, a delay in the progression of the disease, and/or an improvement in survival. For example, response rates from the use of our product candidates may not be sufficient to obtain regulatory approval unless we can also show an adequate duration of response. Regulatory authorities may ultimately disagree with our chosen endpoints or may find that our studies or clinical trial results do not support product approval. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. The results of preclinical studies and early clinical trials of our product candidates with small patient populations may not be predictive of the results of later-stage clinical trials or the results once the applicable clinical trials are completed. Preliminary, single cohort, or top-line results from clinical trials may not be representative of the final clinical trial results. The results of studies in one set of patients or line of treatment may not be predictive of those obtained in another and the results in various human clinical trials reported in scientific and medical literature may not be indicative of results we obtain in our clinical trials. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and initial clinical trials. Preclinical studies may also reveal unfavorable product candidate characteristics, including safety concerns.

We expect there may be greater variability in results for products processed and administered on a patient-by-patient basis, as anticipated for our product candidates, than for “off-the-shelf” products, like many other drugs. There is typically an extremely high rate of attrition from the failure of product candidates proceeding through clinical trials. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy profile despite having progressed through preclinical studies and initial clinical trials. Many 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 clinical trials. Most product candidates that begin clinical trials are never approved by regulatory authorities for commercialization.

In some instances, there can be significant variability in safety or efficacy results between different clinical trials of the same product candidate due to numerous factors, including changes in clinical trial procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the clinical trial protocols and the rate of dropout among clinical trial participants. Our current and future clinical trial results may not be successful. Moreover, should there be a flaw in a clinical trial, it may not become apparent until the clinical trial is well advanced. Further, because we currently plan to test our product candidates for use with other oncology products, the design, implementation, and interpretation of the clinical trials necessary for marketing approval may be more complex than if we were developing our product candidates alone.

In addition, even if such clinical trials are successfully completed, we cannot guarantee that the FDA or foreign regulatory authorities will interpret the results as we do, and more clinical trials could be required before we submit our product candidates for approval. To the extent that the results of the clinical trials are not satisfactory to the FDA or foreign regulatory authorities for support of a marketing application, we may be required to expend significant resources, which may not be available to us, to conduct additional clinical trials in support of potential approval of our product candidates.

We have reported preliminary results for clinical trials of our product candidates, including TIL cell therapy for the treatment of metastatic melanoma, non-small cell lung cancer, cervical cancer, and head and neck cancers. These preliminary results, which include assessments of efficacy such as ORR, are subject to substantial risk of change due to small sample sizes and may change as patients are evaluated or as additional patients are enrolled in these clinical trials. These outcomes may be unfavorable, deviate from our earlier reports, and/or delay or prevent regulatory approval or commercialization of our product candidates, including candidates for which we have reported preliminary efficacy results. In clinical trials where a staged expansion is expected, such as studies using a Simon's two stage design, these outcomes may result in the failure to meet an initial efficacy threshold for the first stage. Furthermore, other measures of efficacy for these clinical trials and product candidates may not be as favorable.

If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.

The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients, or similar patients from a Phase 2 clinical trial to a pivotal program, who remain in the clinical trial until its conclusion. We may experience difficulties or delays in patient enrollment in our clinical trials for a variety of reasons, including:

- the size and nature of the patient population;
- the severity of the disease under investigation;
- the patient eligibility criteria defined in the protocol;
- the size of the clinical trial population required for analysis of the clinical trial's primary endpoints;
- the proximity of patients to clinical trial sites;
- the design of the clinical trial;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- the efforts to facilitate timely enrollment in clinical trials and the effectiveness of recruiting publicity;
- the patient referral practices of physicians;
- competing clinical trials for similar therapies or other new therapeutics not involving cell-based immunotherapy;
- clinicians' and patients' perceptions as to the potential advantages and side effects of the product candidate being studied in relation to other available therapies, including any new drugs or treatments that may be approved for the indications we are investigating;
- clinical investigators enrolling patients who do not meet the enrollment criteria, requiring the inclusion of additional patients in the clinical trial;
- health epidemics, such as the COVID-19 pandemic, limiting our access to patients who would otherwise be eligible for enrollment, including treatment-naïve patients who may be more likely to seek standard of care therapies available at local treatment centers rather than enroll in a clinical trial at a larger hospital;
- approval of new indications for existing therapies or approval of new therapies in general;

- our ability to obtain and maintain patient consents; and
- the risk that patients enrolled in clinical trials will not complete a clinical trial, return for post-treatment follow-up, or follow the required clinical trial procedures. For instance, patients, including patients in any control groups, may withdraw from the clinical trial if they are not experiencing improvement in their underlying disease or condition. Withdrawal of patients from our clinical trials may compromise the quality of our data.

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 clinical trials may instead opt to enroll in a trial being conducted by one of our competitors. Because 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 competitor's 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 cancer treatment, potential patients and their doctors may be inclined to use conventional therapies, such as chemotherapy and approved immunotherapies, rather than enroll patients in any future clinical trial. In addition, potential enrollees may opt to participate in other clinical trials because of the length of time between the time that their tumor is resected and the TIL is infused back into the patient. Amendments to our clinical protocols may affect enrollment in, or results of, our trials, including amendments we have made to further define the patient population to be studied.

Even if we are able to enroll a sufficient number of patients in our clinical trials, delays in patient enrollment or small population size may result in increased costs or may affect the timing or outcome of the planned clinical trials, which could prevent completion of these clinical trials and adversely affect our ability to advance the development of our product candidates.

Our commercial product and product candidates may cause undesirable side effects or have other properties that could halt their clinical development, prevent their regulatory approval, limit their commercial potential, or result in significant negative consequences.

Results of our clinical trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics. Undesirable side effects caused by our product candidates could cause us, IRBs, DSMBs, or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other comparable foreign regulatory authorities. Even if we were to receive product approval, such approval could be contingent on inclusion of unfavorable information in our product labeling, such as limitations on the indications for use for which the products may be marketed or distributed, a label with significant safety warnings, including boxed warnings, contraindications, and precautions, a label without statements necessary or desirable for successful commercialization, or requirements for costly post marketing testing and surveillance, or other requirements, including a REMS, to monitor the safety or efficacy of the products, and in turn prevent us from commercializing and generating revenues from the sale of our current or future product candidates.

If unacceptable toxicities or side effects arise in the development of our product candidates, we, an IRB, DSMB, or the FDA or comparable foreign regulatory authorities could order us to cease clinical trials, order our clinical trials to be placed on clinical hold, or deny approval of our product candidates for any or all targeted indications. The FDA or comparable foreign regulatory authorities may also require additional data, clinical, or preclinical studies should unacceptable toxicities arise. We may need to abandon development or limit development of that product candidate to certain uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk/benefit perspective. Toxicities associated with our clinical trials and products may also negatively impact our ability to conduct clinical trials using TIL cell therapy in larger patient populations, such as in patients that have not yet been treated with other therapies or have not yet progressed on other therapies.

Treatment-related side effects could also affect patient recruitment or the ability of enrolled subjects to complete our clinical trials or result in potential product liability claims. Such toxicities, which may arise from TIL cell therapy in general, including co-therapies, may include, for example, thrombocytopenia, chills, anemia, pyrexia, febrile neutropenia, diarrhea, neutropenia, vomiting, hypotension, and dyspnea. For example, the update in October 2018 from the C-144-01 clinical trial included two grade 5 treatment emergent adverse events. In addition, failure to manage toxicities, adverse events or side effects and to take recommended or other precautions may result in deaths or harm to patients. Furthermore, harm to patients may not be appropriately recognized or managed by the treating medical staff, because treatments related to personalized cell therapy are not normally encountered in the general patient population and by medical personnel. Any of these occurrences may harm our business, financial condition and prospects significantly.

We will be unable to commercialize our products if our trials are not successful.

Our research and development programs are at various stages of clinical development, including several at an early stage. We must demonstrate our products' safety and efficacy in humans through extensive clinical testing. We may experience numerous unforeseen events during, or as a result of, the testing process that could delay or prevent commercialization of our products, including but not limited to the following:

- safety and efficacy results in various human clinical trials reported in scientific and medical literature may not be indicative of results we obtain in our clinical trials;
- after reviewing test results, we or our collaborators may abandon projects that we might previously have believed to be promising;
- we, our collaborators or regulators, may suspend or terminate clinical trials if the participating subjects or patients are being exposed to unacceptable health risks;
- the effects our potential products have may not be the desired effects or may include undesirable side effects or other characteristics that preclude regulatory approval or limit their commercial use if approved;
- manufacturers may not meet the necessary standards for the production of the product candidates or may not be able to supply the product candidates in a sufficient quantity;
- regulatory authorities may find that our clinical trial design or conduct does not meet the applicable approval requirements; and
- our clinical trials, as well as clinical trials from our competitors, may diminish our anticipated revenues due to overlapping patient populations, costs and payor coverage, or patient needs.

Clinical testing is very expensive, can take many years, and the outcome is uncertain. It could take as much as 12 months or more before we learn the results from any clinical trial using our adoptive cell therapy with TIL. The data collected from our clinical trials may not be sufficient to support approval by the FDA and foreign regulatory authorities of our TIL-based product candidates for the treatment of solid tumors. The clinical trials for our products under development may not be completed on schedule and the FDA and foreign regulatory authorities may not ultimately approve any of our product candidates for commercial sale. If we fail to adequately demonstrate the safety and efficacy of any product candidate under development, we may not receive regulatory approval for those products, which would prevent us from generating revenues or achieving profitability.

Risks Related to Third Parties

We may not be able to license new technology from third parties.

An element of our intellectual property portfolio is to license additional rights and technologies from third parties, including the NIH and others. Our inability to license the rights and technologies that we have identified, or that we may in the future identify, could have a material adverse impact on our ability to complete the development of our products or to develop additional products. No assurance can be given that we will be successful in licensing any additional rights or technologies from third parties, including the NIH and others. Failure to obtain additional rights and licenses may detrimentally affect our planned development of additional product candidates and could increase the cost, and extend the timelines associated with our development of such other products.

We are required to pay substantial royalties and lump sum benchmark payments under our license or acquisition agreements with the NIH, Novartis, Clinigen, and Cellectis, and we must meet certain milestones to maintain our license rights.

Under our license or acquisition agreements with the NIH, Novartis, Clinigen, and Cellectis for our adoptive cell therapy and immunotherapy technologies, we are currently required to pay both substantial benchmark payments and royalties to each entity based on our revenues from sales of our products utilizing the licensed or acquired technologies. These payments could adversely affect the overall profitability for us of any products that we may seek to commercialize under these license agreements. In order to maintain our license rights under the NIH, Novartis, and Cellectis license agreements, we will need to meet certain specified milestones, subject to certain cure provisions, in the development of our product candidates, and a milestone payment is required to Clinigen upon the approval of lifileucel in melanoma. There is no assurance that we will be successful in meeting these milestones on a timely basis, or at all.

We are dependent on third parties to support our research, development, and supplement our internal manufacturing activities and, therefore, are subject to the efforts of these parties and our ability to successfully collaborate with these third parties.

As a result of our current strategy to supplement our internal manufacturing by outsourcing, we rely very heavily on third parties to perform for us the manufacturing of our products and/or product candidates. We also license a portion of our technology from others. We intend to rely upon both our internal facility, the *i*CTC, as well as our CMOs to produce large quantities of materials needed for clinical trials and product commercialization. Third party manufacturers may not be able to meet our needs with respect to timing, quantity, or quality. If we are unable to contract for a sufficient supply of needed materials on acceptable terms, or if we should encounter delays or difficulties in our relationships with manufacturers, our clinical testing and/or commercialization efforts may be delayed, thereby delaying the submission of products for regulatory approval or the market introduction and subsequent sales of our products and product candidates. Any such delay may lower our revenues and potential profitability.

In addition, in order to supplement our own efforts to improve TIL manufacturing and develop TIL cell therapies in new indications in clinical trials, we currently work and collaborate with government and academic research institutions, medical institutions, and corporate partners such as the NCI, Moffitt, Memorial Sloan Kettering Cancer Center, Cellectis, and Novartis. We also intend to continue to enter into additional third-party collaborative agreements in the future. However, we may not be able to successfully negotiate any additional collaborative arrangements. If established, these relationships may not be scientifically or commercially successful, or may be unable to enroll patients, which has occurred in one of our prior collaborations. The success of these and future collaborations and joint development arrangements may be subject to numerous risks and uncertainties, including the inability or unwillingness of our partners to perform in the manner, or to the extent anticipated, may also be subject to disagreements regarding the rights, interests, and performance of the counterparties under our licenses and development agreements. Disagreements between parties to a collaboration arrangement regarding clinical development and commercialization matters can lead to delays in the development process or commercialization of the applicable product and/or product candidate and, in some cases, termination of the collaboration arrangement. These disagreements can be difficult to resolve if neither of the parties has final decision-making authority under the collaboration agreement.

With regard to future collaboration efforts, we face significant competition in seeking appropriate collaborators. Our ability to reach a definitive agreement for 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, an evaluation by the proposed collaborator of a number of similar or unique factors.

Collaborations with biopharmaceutical companies and other third parties often are terminated or allowed to expire by the other party. Any such termination or expiration would adversely affect us financially and could harm our business reputation. Any collaboration may pose a number of risks, including the following:

- collaborators may not perform their obligations as expected;
- collaborators may not pursue development of product candidates and/or commercialization of products that achieve regulatory approval or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities;
- 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 fail to make timely regulatory submissions for a product candidate;
- collaborators may not comply with all applicable regulatory requirements or may fail to report safety data in accordance with all applicable regulatory requirements;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products and/or product candidates if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- products and/or product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own products and/or product candidates, which may cause collaborators to cease to devote resources to the commercialization of our products and/or product candidates;
- a collaborator with marketing and distribution rights to one or more of our product candidates that achieve regulatory approval may not commit sufficient resources to the marketing and distribution of such product candidate or product;
- disagreements with collaborators, including disagreements over proprietary rights, contract interpretation, or the preferred course of development, might cause delays or termination of the research, development, or commercialization of products

and/or product candidates, might lead to additional responsibilities for us with respect to products and/or 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;
- collaborators may be involved in a business combination, resulting in the decreased emphasis or termination of development or commercialization of any product candidate subject to the collaboration agreement; and
- termination of a collaboration agreement may make it more difficult to attract new collaborators and our and our products' or product candidates' reputation in the medical, business, and financial communities could be adversely affected.

If any third-party collaborator breaches or terminates its agreement with us or fails to conduct its activities in a timely manner, the commercialization of our product candidates under development could be delayed or blocked completely. It is possible that our collaborators will change their strategic focus, pursue alternative technologies, or develop alternative products, either on their own or in collaboration with others, as a means for developing treatments for the diseases targeted by our collaborative programs. The effectiveness of our collaborators in marketing our products will also affect our revenues and earnings.

Our collaborators will also be required to comply with the applicable regulatory requirements, and, as such, are subject to the same risks as we are. If they do not or are not able to comply with these requirements, we may not be able to use the data generated through their studies to support our future investigational or marketing applications. Collaborator noncompliance may also expose them and us to regulatory enforcement actions.

No assurance can be given that we will be able to successfully collaborate with our partners as anticipated and that our current or future collaborations will be completed as contemplated, support the regulatory approval of our current product candidates, or result in any viable additional products and/or product candidates. For instance, to the extent that these collaborators conduct their studies with manufacturing processes that are different from ours or with a product that is different from ours, the results generated from their studies may not be seen in our current or future studies that employ our manufacturing processes, and the results generated from their studies may not support approval of our product candidates.

If we are unable to obtain or maintain 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 commercialization of products and/or product candidates or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense.

We rely on and collaborate with governmental, academic, and corporate partners or agencies to approve, improve, and develop TIL cell therapies for new indications for use in combination with other therapies and to evaluate new TIL manufacturing methods, the results of which, because the manufacturing processes are not within our control, may be incorrect or unreliable.

In addition to our own research and process development efforts, we seek to collaborate with government, academic research institutions and corporate partners to improve TIL manufacturing and to develop TIL cell therapies for new indications. In 2017-2020, we announced our continued collaborations with Moffitt, MDACC, and others to evaluate new solid tumor and hematologic indications for TIL cell therapy in clinical trials and preclinical studies, as well as, in some cases, new TIL manufacturing approaches. The results of these collaborations may be used to support our filing with the FDA of INDs to conduct more advanced clinical trials of our product candidates, or to otherwise analyze or make predictions or decisions with respect to our current or future product candidates. However, because the majority of our collaborations are conducted at outside laboratories and we do not have complete control over how the studies are conducted or reported or over the manufacturing methods used to manufacture TIL product, the results of such studies, which we may use as the basis for our conclusions, projections or decisions with respect to our current or future products and product candidates, may be incorrect or unreliable, or may have a negative impact on us if the results of such studies are imputed to our products or proposed indications, even if such imputation is improper. For example, we have entered into collaborations with academic partners to perform clinical trials using TIL products that differ from our products, but the results of these clinical trials, if negative, may adversely impact our stock price and our development plans for our products. Additionally, we may use third party data to analyze, reach conclusions or make predictions or decisions with respect to our product candidates that may be incomplete, inaccurate or otherwise unreliable. There may also be delays or other limitations on our activities as a result of the inability of these entities to expedite our priorities in the product, facility, or regulatory approval process.

Other Risks Related to Our Business

Our current line of business, and the biotechnology industry in which we operate, makes it difficult to evaluate our business plan and our prospects.

We have only a limited operating history in our current line of business on which a decision to invest in our company can be based. The future of our company currently is dependent upon our ability to implement our business plan, as that business plan may be modified from time to time by our management and Board of Directors. While we believe that we have a reasonable business plan and research and development strategy, we have only a limited operating history against which we can test our plans and assumptions, and investors therefore cannot evaluate the likelihood of our success.

We face the problems, expenses, difficulties, complications, and delays normally associated with a commercial biopharmaceutical company with significant pre-commercial assets, many of which are beyond our control. Accordingly, our prospects should be considered in light of the risks, expenses, and difficulties frequently encountered in the establishment of a new business developing technologies in an industry that is characterized by a number of market entrants and intense competition. Because of our size and limited resources, we may not possess the ability to successfully overcome many of the risks and uncertainties frequently encountered by commercial biopharmaceutical companies with significant pre-commercial assets involved in the rapidly evolving field of immunotherapy. We also face the risks associated with the shift from development to commercialization of new products based on innovative technologies. There can be no assurance that we will be successful in developing our business.

Our internal computer systems, or those used by our CROs or other contractors or consultants, may fail or suffer security breaches.

Despite the implementation of security measures, our internal computer systems and those of our CROs and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized and authorized access, natural disasters, terrorism, war and telecommunication and electrical failures. If such an event was to occur and cause interruptions in our operations, it could result in a disruption of our drug development programs. For example, the loss of clinical trial data from completed or ongoing clinical trials for a product candidate could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach 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 liability and the further development of any product candidates could be delayed.

We maintain a specialized information technology system for tracking chain of custody and chain of identity for TIL cell therapy patients. Like other autologous cell therapies, this is extremely important for patient safety and is a requirement outlined in our BLA submission. This requires us to store and maintain patient specific health information. The risks associated with storing patient health and personal data may increase cyber threats and regulatory accountability and scrutiny. Although we have industry-standard secure systems and maintain privacy controls, there is a possibility that incidents compromising this information can occur. In addition to the regulatory and civil litigation risks, failure to maintain this data correctly could result in loss of patients or impair our ability to deliver patient care.

We are dependent on information technology, systems, infrastructure and data.

We are dependent upon information technology systems, infrastructure and data. The multitude and complexity of our computer systems make them inherently vulnerable to service interruption or destruction, malicious intrusion and random attack. Likewise, data privacy or cybersecurity breaches by third parties, employees, contractors or others may pose a risk that sensitive data, including our intellectual property, trade secrets or personal information of our employees, patients, or other business partners may be exposed to unauthorized persons or to the public. Cyberattacks are increasing in their frequency, sophistication and intensity. The Russia-Ukraine conflict may also increase cybersecurity risks on a global basis. Cyberattacks could include the deployment of harmful malware, denial-of-service, ransomware, social engineering and other means to affect service reliability and threaten data confidentiality, privacy, integrity and availability. Our business and technology partners face similar risks, and any security breach of their systems could adversely affect our security posture. While we have invested, and continue to invest, in the protection of our data and information technology infrastructure, there can be no assurance that our efforts, or the efforts of our partners and vendors, will prevent service interruptions, or identify breaches in our systems, that could adversely affect our business and operations and/or result in the loss of critical or sensitive information, which could result in financial, legal, business or reputational harm to us. In addition, our liability insurance may not be sufficient in type or amount to cover us against claims related to security breaches, cyberattacks and other cybersecurity related breaches.

Our business could be adversely affected by the effects of health epidemics, including the COVID-19 pandemic, in regions where we or third parties on which we rely have significant manufacturing facilities, concentrations of clinical trial sites or other business operations. The COVID-19 pandemic could materially affect our operations, including at our headquarters in San Carlos, California, at our manufacturing facility in Philadelphia, Pennsylvania, which have previously been subject to state executive orders and shelter-in-place orders, and at our clinical trial sites, as well as the business or operations of our other manufacturers, CROs, or other third parties with whom we conduct business.

Our business could be adversely affected by health epidemics in regions where we have offices, manufacturing facilities, concentrations of clinical trial sites or other business operations, and could cause significant disruption in the operations of clinical trial sites, third party manufacturers and CROs upon whom we rely. For example, starting in December 2019, a novel strain of coronavirus, or COVID-19, was reported to have surfaced in Wuhan, China and spread to multiple countries, including the U.S. and several European countries. In March 2020, the World Health Organization declared COVID-19 a global pandemic and the U.S. declared the COVID-19 pandemic a national emergency. Similarly, during that time, the State of California declared a state of emergency related to the spread of the COVID-19 pandemic and the health officers of six San Francisco Bay Area counties, including San Mateo County where our headquarters in San Carlos is located, issued shelter-in-place orders. In addition, on March 19, 2020, the Governor of California and the State Public Health Officer and Director of the California Department of Public Health ordered all individuals living in the State of California to stay at their place of residence for an indefinite period of time (subject to certain exceptions to facilitate authorized necessary activities) to mitigate the impact of the COVID-19 pandemic. Throughout 2020 and 2021, similar executive orders were issued by state and local governments, and states of emergency had been declared at the state and local level in most jurisdictions throughout the U.S. As recently as April 2022, ports and airports in Shanghai, China closed due to another outbreak of COVID-19, resulting in a lockdown of the city and disruption to export and import activities. In the U.S., many of these executive orders have been rescinded, however, we remain vigilant and continue to monitor any ongoing effects of the COVID-19 pandemic closely to determine if additional actions are required.

Quarantines, shelter-in-place, and similar government orders, or the perception that such orders, shutdowns or other restrictions on the conduct of business operations could occur, related to the COVID-19 pandemic or other infectious diseases could impact personnel at third-party manufacturing facilities in the U.S. and other countries, or the availability or cost of materials, which would disrupt our supply chain. In addition, our clinical trials may be affected by health epidemics, such as the COVID-19 pandemic. Clinical site initiation, patient enrollment and patient monitoring may be delayed due to prioritization of hospital resources toward health epidemics, such as the COVID-19 pandemic. Some sites may no longer be available to see patients for clinical trials. Some patients may not be able to comply with clinical trial protocols if quarantines impede patient movement or interrupt healthcare services. Patients may also miss follow-up visits after receiving our therapies during our clinical trials, which may or may not be rectified by future patient visits and which may result in the exclusion of data from such patients from the clinical trial data. Similarly, our ability to recruit and retain patients and principal investigators and site staff who, as healthcare providers, may have heightened exposure to viruses that cause pandemic and epidemics, such as the virus that causes the COVID-19 pandemic, and such exposure may adversely impact our clinical trial operations. Health epidemics, such as the COVID-19 pandemic, may also affect our ability to recruit treatment-naïve patients into our clinical trials, because those patients may be more likely to seek standard of care therapies available at local treatment centers rather than enroll in a clinical trial at a larger hospital.

We continue to monitor the impact, if any, of health epidemics, including the COVID-19 pandemic, on our current and future operations, including our regulatory filing timelines and strategy, as well as our preparation for commercial launch. As with the COVID-19 pandemic, any restrictions regarding travel and face to face interactions or constraints on resources, either by us or our contractors, including our CMOs, may negatively impact our regulatory strategy or commercial launch preparations. Health epidemics may also impact the FDA and their ability to timely review our regulatory filings and conduct the pre-approval inspections necessary for ultimate approval of BLA. We cannot predict at this time whether and how FDA operations may be impacted at relevant times for our planned regulatory submissions.

Our failure to comply with international data protection laws and regulations could lead to government enforcement actions and significant penalties against us, and adversely impact our operating results.

EU member states and other foreign jurisdictions, including Switzerland, the UK, and Canada, have adopted data protection laws and regulations which impose significant compliance obligations on us. Moreover, the collection and use of personal health data in the EU, which was formerly governed by the provisions of the EU Data Protection Directive, was replaced with the EU General Data Protection Regulation, or the GDPR, in May 2018. The GDPR, which is wide-ranging in scope, imposes several requirements relating to the consent of the individuals to whom the personal data relates, the information provided to the individuals, the security and

confidentiality of the personal data, data breach notification and the use of third-party processors in connection with the processing of personal data.

The GDPR also imposes strict rules on the transfer of personal data out of the EU to the U.S., provides an enforcement authority and imposes large penalties for noncompliance, including the potential for fines of up to €20 million or 4% of the annual global revenues of the noncompliant company, whichever is greater. The GDPR requirements apply not only to third-party transactions, but also to transfers of information between us and our subsidiaries. The implementation of the GDPR has increased our responsibility and liability in relation to personal data that we process, including in clinical trials, and we may in the future be required to put in place additional mechanisms to ensure compliance with the GDPR, which could divert management's attention and increase our cost of doing business. In addition, new regulation or legislative actions regarding data privacy and security (together with applicable industry standards) may increase our costs of doing business. If we fail to comply with the data protection laws in any EU member country or other jurisdiction, the data protection authority of such country or other jurisdiction may, in addition to fines, impose sanctions on us, which may include a prohibition that prevents us from transferring and/or processing personal data of data subjects from such country or other jurisdiction for a duration determined by the sanctioning authority. Our inability to transfer and/or process personal data of data subjects could preclude us from conducting clinical trials of our products in the EU member country or other jurisdiction for the duration of the sanction. Our inability to conduct clinical trials in the EU member country or other jurisdiction for the duration of the sanction may delay and increase the cost of development of our products, with a material adverse effect on our business. In this regard, we expect that there will continue to be new proposed laws, regulations, and industry standards relating to privacy and data protection in the U.S., the EU, and other jurisdictions, and we cannot determine the impact such future laws, regulations and standards may have on our business.

Our failure to comply with state and/or national data protection laws and regulations could lead to government enforcement actions and significant penalties against us, and adversely impact our operating results.

There are numerous other laws and legislative and regulatory initiatives at the federal and state levels addressing privacy and security concerns, and some state privacy laws apply more broadly than the Health Insurance Portability and Accountability Act (as amended by the Health Information Technology for Economic and Clinical Health Act Act), or HIPAA, and associated regulations. For example, California recently enacted legislation, the California Consumer Privacy Act, or CCPA, which went into effect January 1, 2020, and was recently amended and expanded by the California Privacy Rights Act, or CPRA, which will take effect on January 1, 2023. The CCPA and CPRA, among other things, create new data privacy obligations for covered companies and provides new privacy rights to California residents, including the right to opt out of certain disclosures of their information. The CCPA also created a private right of action with statutory damages for certain data breaches, thereby potentially increasing risks associated with a data breach.

Although the law includes limited exceptions, including for certain information collected as part of clinical trials as specified in the law, it may regulate or impact our processing of personal information depending on the context. It remains unclear what, if any, additional modifications will be made to the CPRA by the California legislature or how it will be interpreted. Therefore, the effects of the CCPA and CPRA are significant and will likely require us to modify our data processing practices and may cause us to incur substantial costs and expenses to comply.

If we engage in future acquisitions or strategic partnerships, this may increase our capital requirements, dilute our stockholders, cause us to incur debt or assume contingent liabilities, and subject us to other risks.

We may evaluate various acquisitions and strategic partnerships, including licensing or acquiring complementary products, intellectual property rights, technologies, or businesses. Any potential acquisition or strategic partnership may entail numerous risks, including:

- increased operating expenses and cash requirements;
- the assumption of additional indebtedness or contingent liabilities;
- the issuance of our equity securities;
- assimilation of operations, intellectual property and products of an acquired company or product, including difficulties associated with integrating new personnel;
- the diversion of our management's attention from our existing product programs and initiatives in pursuing such a strategic merger or acquisition;
- retention of key employees, the loss of key personnel, and uncertainties in our ability to maintain key business relationships;
- risks and uncertainties associated with the other party to such a transaction, including the prospects of that party and their existing products or product candidates and regulatory approvals; and

- our inability to generate revenue from acquired technology and/or products sufficient to meet our objectives in undertaking the acquisition or even to offset the associated acquisition and maintenance costs.

Depending on the size and nature of future strategic acquisitions, we may acquire assets or businesses that require us to raise additional capital or to operate or manage businesses in which we have limited experience. Making larger acquisitions that require us to raise additional capital to fund the acquisition will expose us to the risks associated with capital raising activities. Acquiring and thereafter operating larger new businesses will also increase our management, operating and reporting costs and burdens. In addition, if we undertake acquisitions, we may issue dilutive securities, assume or incur debt obligations, incur large one-time expenses and acquire intangible assets that could result in significant future amortization expense. Moreover, we may not be able to locate suitable acquisition opportunities and this inability could impair our ability to grow or obtain access to technology or products that may be important to the development of our business. In addition, even if we are able to pursue certain strategic acquisition opportunities, we cannot guarantee that such acquisitions may completed in a timely manner, if at all, or that all conditions necessary to consummate such transactions will be satisfied, including the receipt of all required regulatory approvals.

We have global operations, which expose us to additional risks, and any adverse event could have a material adverse effect on our results of operations and financial condition.

Our operations outside the U.S. have recently expanded. Risks inherent in conducting a global business include:

- changes in medical reimbursement policies and programs and pricing restrictions in key markets;
- multiple regulatory requirements that could restrict our ability to manufacture and sell our products in key markets;
- trade protection measures, tariffs, and import or export licensing requirements, including the imposition of trade sanctions or similar restrictions by the U.S. or other governments;
- foreign exchange fluctuations;
- diminished protection of intellectual property in some countries; and
- possible nationalization and expropriation.

In addition, there may be changes to our business if there is instability, disruption, or destruction in a significant geographic region, regardless of cause, including war, terrorism, riot, civil insurrection or social unrest; and natural or man-made disasters, including famine, flood, fire, earthquake, storm, or disease. Events like these, such as the ongoing war between Russia and Ukraine and rising conflict in the Middle East, could result in material adverse effects on macroeconomic conditions, currency exchange rates and financial markets, and may adversely affect our business, results of operations, and financial condition.

Furthermore, changes in regulations and policies by the new U.S. administration, including increases in tariffs, and the resulting political and economic uncertainty in the U.S. may also impact our operations as well as the financial markets and the global economy.

We are currently operating in a period of economic uncertainty and capital markets disruption, which has been significantly impacted by geopolitical instability, ongoing military conflicts between Russia and Ukraine and between Israel and Hamas, Hezbollah, and the Houthis, and inflation. Our business, financial condition and results of operations could be materially adversely affected by any negative impact on the global economy and capital markets resulting from the conflicts in Ukraine and the Middle East, geopolitical tensions, or inflation.

U.S. and global markets are experiencing volatility and disruption following the escalation of geopolitical tensions and the continuation of the military conflict between Russia and Ukraine. On February 24, 2022, a full-scale military invasion of Ukraine by Russian troops was reported. Although the length and impact of the ongoing military conflict is highly unpredictable, the conflict in Ukraine could lead to market disruptions, including significant volatility in commodity prices, credit and capital markets, as well as supply chain interruptions, and changes in inflation. We are continuing to monitor inflation, the situation in Ukraine, and global capital markets, and assessing the potential impacts on our business.

The global economy has been, and may continue to be, negatively impacted by Russia's invasion of Ukraine. As a result of Russia's invasion of Ukraine, the U.S., the EU, the UK, and other G7 countries, among other countries, have imposed substantial financial and economic sanctions on certain industry sectors and parties in Russia. Broad restrictions on exports to Russia have also been imposed. These measures include: (i) comprehensive financial sanctions against major Russian banks; (ii) additional designations of Russian individuals with significant business interests and government connections; (iii) designations of individuals and entities involved in Russian military activities; and (iv) enhanced export controls and trade sanctions limiting Russia's ability to import various

goods. Russian military actions and the resulting sanctions could continue to adversely affect the global economy and financial markets and lead to instability and lack of liquidity in capital markets, potentially making it more difficult for us to obtain additional funds.

In addition, on October 7, 2023, Hamas militants and members of other terrorist organizations infiltrated Israel's southern border from the Gaza Strip and conducted a series of terror attacks on civilian and military targets. Thereafter, Hamas launched extensive rocket attacks on Israeli population and industrial centers located along the Israeli border with the Gaza Strip. Shortly following the attack, Israel's security cabinet declared war against Hamas and launched an aerial bombardment of various targets within the Gaza Strip. The Israeli government subsequently called for the evacuation of over one million residents of the northern part of the Gaza Strip and began a ground invasion of the Gaza Strip that remains ongoing. Other terrorist and/or regional organizations have joined the hostilities as well, including Hezbollah in Lebanon, and the Houthis in Yemen, and it is possible that Palestinian military organizations in the West Bank will also join, resulting in a further widening of the conflict. The intensity and duration of Israel's current wars are difficult to predict as are such wars' economic implications on the global economy.

There are also current geopolitical tensions with China. Recently, the Biden administration has signed multiple executive orders regarding China. One particular executive order titled Advancing Biotechnology and Biomanufacturing Innovation for a Sustainable, Safe, and Secure American Bioeconomy, signed on September 12, 2022, will likely impact the pharmaceutical industry to encourage U.S. domestic manufacturing of pharmaceutical products. Additionally, on February 28, 2024, President Biden signed Executive Order 14117 ("Preventing Access to Americans' Bulk Sensitive Personal Data and United States Government-Related Data by Countries of Concern") which implements a new framework to protect the privacy of personal data shared between the U.S. and Europe, which may, in effect, impact privacy laws with "countries of concern" such as China or Russia. Moreover, there have been Congressional legislative proposals, such as the bill titled the BIOSECURE Act, to discourage contracting with Chinese companies, including two WuXi affiliates, on the development or manufacturing of pharmaceutical products. The BIOSECURE Act did not pass in 2024, but support for the policies contained therein remains broad in Congress, and the bill could be reintroduced in 2025. Any additional executive action, legislative action, or potential sanctions with respect to China could materially impact our current manufacturing partners and our agreements with them, including our MSA with WuXi. For example, in February 2024, the chair and ranking member of the House Select Committee on the Chinese Communist Party, Representatives Mike Gallagher and Raja Krishnamoorthi, respectively, along with Senators Gary Peters and Bill Hagerty sent a letter to the Biden administration requesting that both WuXi AppTec Co., Ltd., WuXi's parent company, and the affiliated WuXi Biologics be added to the Department of Defense's Chinese Military Companies List (1260H list), the Department of Commerce's Bureau of Industry and Security Entity List, and the Department of Treasury's Non-SDN Chinese Military-Industrial Complex Companies List. While the Biden administration did not take action on this letter, adding either or both previously mentioned WuXi entities on any or all of the aforementioned lists could materially impact our MSA with WuXi, and the current Trump administration could take action with regard to such letter. The new administration may also enact new regulations or policies that affect trade with China or otherwise impact the biopharmaceutical industry by enacting laws to restrict U.S. biopharmaceutical companies from contracting with Chinese companies on the development, research or manufacturing of biopharmaceutical products. Any additional executive orders, legislative action or potential sanctions on China could materially impact our current manufacturing partners.

Although our business has not been materially impacted by the ongoing military conflicts between Russia and Ukraine or Israel and Hamas, Hezbollah, and the Houthis, geopolitical tensions, tariffs, or inflation to date, it is impossible to predict the extent to which our operations, or those of our suppliers and manufacturers, will be impacted in the short and long term, or the ways in which the conflict may impact our business. The extent and duration of the conflicts in Ukraine and the Middle East, geopolitical tensions, inflation, sanctions and resulting market disruptions are impossible to predict, but could be substantial. Any such disruptions may also magnify the impact of other risks described herein.

We are exposed to fluctuations in currency exchange rates that could negatively impact our financial results and cash flows.

With the acquisition of Proleukin® in May 2023 and with the future commercialization of Amtagvi® in other markets, a portion of our business will be conducted outside the U.S. Furthermore, we are required to make certain future payments under the Proleukin® acquisition agreement that are denominated in non-U.S. dollars, including future deferred consideration and earnout payments based on Proleukin® sales. As such, we face exposure to adverse movements in foreign currency exchange rates, including movements in foreign currency for the future milestone payment. These exposures may change over time as business practices evolve, and they could have a material adverse impact on our business, cash flow, results of operations, financial condition, and prospects. Our primary exposure to movements in foreign currency exchange rates currently relates to non-U.S. dollar denominated sales in Europe, the UK, and Asia, and non-U.S. dollar denominated operating expenses and certain assets and liabilities in our operating subsidiaries.

Additionally, we have entered and may enter into business development transactions, borrowings, or other financial transactions that may give rise to currency and interest rate exposure. Since we cannot, with certainty, foresee and mitigate against such adverse changes, fluctuations in currency exchange rates, interest rates, and inflation could negatively affect our business, cash flow, results of operations, financial condition, and prospects.

In order to mitigate against the adverse impact of these market fluctuations, we may from time to time enter into hedging agreements. While hedging agreements, such as currency options and forwards and interest rate swaps, may limit some of the exposure to exchange rate and interest rate fluctuations, such attempts to mitigate these risks may be costly and not always successful.

Climate change or legal, regulatory, or market measures to address climate change may negatively affect our business, results of operations, cash flows and prospects.

We believe that climate change has the potential to negatively affect our business and results of operations, cash flows and prospects. We are exposed to physical risks (such as extreme weather conditions or rising sea levels), risks in transitioning to a low-carbon economy (such as additional legal or regulatory requirements, changes in technology, market risk and reputational risk), and social and human effects (such as population dislocations and harm to health and well-being) associated with climate change. These risks can be either acute (short-term) or chronic (long-term).

The adverse impacts of climate change include increased frequency and severity of natural disasters and extreme weather events such as hurricanes, tornados, wildfires (exacerbated by drought), flooding, and extreme heat. Extreme weather and sea-level rise pose physical risks to our facilities, as well as those of our suppliers. Such risks include losses incurred as a result of physical damage to facilities, loss or spoilage of inventory, and business interruption caused by such natural disasters and extreme weather events. Other potential physical impacts due to climate change include reduced access to high-quality water in certain regions and the loss of biodiversity, which could impact future product development. These risks could disrupt our operations and supply chains, which may result in increased costs.

New legal or regulatory requirements may be enacted to prevent, mitigate, or adapt to the implications of a changing climate and its effects on the environment. These regulations, which may differ across jurisdictions, could result in us being subject to new or expanded carbon pricing or taxes, increased compliance costs, restrictions on greenhouse gas emissions, investment in new technologies, increased carbon disclosure and transparency, upgrade of facilities to meet new building codes, and the redesign of utility systems, which could increase our operating costs, including the cost of electricity and energy used by us. Our supply chain would likely be subject to these same transitional risks and would likely pass along any increased costs to us.

Environmental, social, and governance matters may impact our business and reputation.

Governmental authorities, non-governmental organizations, customers, investors, external stakeholders, and employees are increasingly sensitive to environmental, social, and governance, or ESG, concerns, such as diversity and inclusion, climate change, water use, recyclability or recoverability of packaging, and plastic waste. This focus on ESG concerns may lead to new requirements that could result in increased costs associated with developing, manufacturing and distributing our products. Our ability to compete could also be affected by changing customer preferences and requirements, such as growing demand for more environmentally friendly products, packaging or supplier practices, or by failure to meet such customer expectations or demand. Changes in regulations and policies of the new U.S. administration may have the effect of scaling back or halting the progress of proposed or enacted ESG-related regulations, which may also have an effect on requirements and preferences of various government agencies and external stakeholders. While we strive to improve our ESG performance, we risk negative stockholder reaction, including from proxy advisory services, as well as damage to our brand and reputation, if we do not act responsibly, or if we are perceived to not be acting responsibly in key ESG areas, including equitable access to medicines and vaccines, product quality and safety, diversity and inclusion, environmental stewardship, support for local communities, corporate governance and transparency, and addressing human capital factors in our operations. If we do not meet the ESG expectations of our investors, customers, and other stakeholders, we could experience reduced demand for our products, loss of customers, and other negative impacts on our business and results of operations.

In addition, this emphasis on environmental, social, and other sustainability matters has resulted and may result in the adoption of new laws and regulations, including new reporting requirements. If we fail to comply with new laws, regulations, or reporting requirements, our reputation and business could be adversely impacted.

Risks Related to Government Regulation

We are subject to extensive regulation, which can be costly and time consuming and can subject us to unanticipated delays in obtaining regulatory approvals for our products and/or product candidates, and even after obtaining regulatory approval for some of our products and/or product candidates, those products and/or product candidates may still face regulatory difficulties.

Our products, potential products, and cell processing and manufacturing activities are subject to comprehensive regulation by the FDA in the U.S. and by comparable authorities in other countries. The process of obtaining FDA and other required regulatory approvals, including foreign approvals, is expensive and often takes many years and can vary substantially based upon the type, complexity and novelty of the products involved. In addition, regulatory agencies may lack experience with our technologies and products, which may lengthen the regulatory review process, increase our development costs and delay or prevent their commercialization.

Prior to Amtagvi®, no adoptive cell therapy using a TIL product had been approved for marketing by the FDA. Consequently, there is no precedent for the successful commercialization of products based on our technologies. In addition, we have had only limited experience in filing and pursuing applications necessary to gain regulatory approvals, which may impede our ability to obtain timely FDA or foreign regulatory approvals, if at all. We have completed the process for FDA approval for one adoptive cell therapy product. We will not be able to commercialize any of our potential products until we obtain FDA or foreign regulatory approvals, and so any delay in obtaining, or inability to obtain, FDA or foreign regulatory approvals would harm our business.

If we fail to comply with regulatory requirements at any stage, whether before or after marketing approval is obtained, we may face a number of regulatory consequences, including refusal to approve pending applications, license suspension or revocation, withdrawal of an approval, imposition of a clinical hold or termination of clinical trials, warning letters, untitled letters, modification of promotional materials or labeling, provision of corrective information, imposition of post-market requirements, including the need for additional testing, imposition of distribution or other restrictions under a REMS, product recalls, product seizures or detentions, refusal to allow imports or exports, total or partial suspension of production or distribution, FDA debarment, injunctions, fines, consent decrees, corporate integrity agreements, debarment from receiving government contracts and new orders under existing contracts, exclusion from participation in federal and state healthcare programs, restitution, disgorgement, or civil or criminal penalties, including fines and imprisonment, and adverse publicity, among other adverse consequences. Additionally, we may not be able to obtain the labeling claims necessary or desirable for the promotion of our products or product candidates. We may also be required to undertake post-marketing trials. In addition, if we or others identify side effects after any of our adoptive cell therapies are on the market, or if manufacturing problems occur, regulatory approval may be withdrawn and reformulation of our products may be required.

The FDA and foreign regulatory approval process is lengthy and time-consuming, and we may experience significant delays in the clinical development and regulatory approval of our product candidates.

We completed our first submission of a rolling BLA to the FDA for lifileucel in March 2023. The FDA accepted our BLA for Amtagvi® for patients with advanced melanoma in May 2023 and granted lifileucel Priority Review. The FDA originally assigned November 25, 2023 as the target action date for a decision under PDUFA, however, the FDA then reassigned February 24, 2024 as the revised target action date before approving the BLA on February 16, 2024. A BLA must include extensive preclinical and clinical data and supporting information to establish the product candidate's safety and effectiveness for each desired indication. Our BLA submissions and expected timelines for our product candidates are based on our interpretation of communications received from the FDA to date regarding each product candidate and are subject to revision if additional communications are received from the FDA. As such, we may experience delays with FDA approval of additional BLAs.

We are conducting registrational trials for advanced NSCLC and frontline advanced melanoma cancer with our lifileucel product candidate. These trials, which we refer to as IOV-LUN-202 Cohorts 1 and 2 in the case of advanced NSCLC and TILVANCE-301 in the case of advanced melanoma, are currently underway and have been the subject of formal FDA meetings and communications. For instance, on December 22, 2023, the FDA placed a clinical hold on the IOV-LUN-202 trial in response to a reported Grade 5 (fatal) serious adverse event potentially related to the non-myeloablative lymphodepletion pre-conditioning regimen, and we paused enrollment and the lifileucel treatment regimen for new patients in IOV-LUN-202 during the clinical hold. On March 4, 2024, the FDA lifted the partial clinical hold on the IOV-LUN-202 trial, permitting us to resume patient enrollment. Our current beliefs regarding the registration pathway for lifileucel in these indications are based on our interpretation of communications with the FDA to date and our efforts to address such communications, which may be incorrect. Our statements that the clinical trial may support a BLA submission also assume that our as-adjusted clinical trial has addressed the additional requests and feedback by the FDA. Further, enrollment in these clinical trials may need to be further adjusted based on future feedback from the FDA, changes in the competitive environment, or other regulatory agency input. Protocol revisions may have an adverse effect on the results reported to date. Changes to implement an

independent review committee and assay validation and implementation, and the data within these clinical trials may not ultimately be supportive of product approval, all of which could result in significant delays to our currently anticipated timeline for development and approval of the lifileucel product candidate or prevent their approval.

A BLA must also include significant information regarding the chemistry, manufacturing and controls for the product. We expect the novel nature of our product candidates to create further challenges in obtaining regulatory approval. For example, the FDA has limited experience with commercial development of cell therapies for cancer. We may also not be able to successfully utilize the BTD designation we have received for metastatic cervical cancer to successfully complete the development and commercialization of Amtagvi® for this indication. We may not be able to reach agreement with the FDA on an interpretation of outcomes from our meetings, including meetings we have held with the FDA in relation to our C-145-04 clinical trial and future meetings. In addition, as previously disclosed, Iovance began a confirmatory Phase 3 clinical trial, TILVANCE-301, of lifileucel in combination with pembrolizumab in frontline metastatic melanoma in late 2022. The FDA previously granted Fast Track Designation for lifileucel in combination with pembrolizumab for the treatment of immune checkpoint inhibitor naïve metastatic melanoma. However, the regulatory approval pathway for our product candidates may be uncertain, complex, expensive, and lengthy, and approval may not be obtained.

We may also experience delays, including delays arising from the need to increase enrollment, in completing planned clinical trials for a variety of reasons, including delays related to:

- the availability of financial resources to commence and complete the planned clinical trials;
- reaching agreement on acceptable contract terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites;
- obtaining approval at each clinical trial site by an independent IRB, or central IRB;
- recruiting suitable patients to participate in a clinical trial;
- having patients complete a clinical trial or return for post-treatment follow-up;
- clinical trial sites deviating from clinical trial protocol or dropping out of a clinical trial;
- adding new clinical trial sites;
- manufacturing sufficient quantities of qualified materials under cGMP and applying them on a subject-by-subject basis for use in clinical trials; or
- timely implementing or validating changes to our manufacturing or quality control processes and methods needed to address FDA feedback.

We could also encounter delays if there are unresolved ethical issues associated with physicians enrolling patients in clinical trials of our product candidates in lieu of prescribing existing treatments that have established safety and efficacy profiles. Further, a clinical trial may be suspended or terminated by us, the IRBs for the institutions in which such clinical trials are being conducted by the FDA or other regulatory authorities, or recommended for suspension or termination by DSMBs due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or clinical trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, including as a result of genetic editing methods, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a product candidate, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. If we experience termination of, or delays in the completion of, any clinical trial of our product candidates, the commercial prospects for our product candidates will be harmed, and our ability to generate product revenue will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow down our product development and approval process and jeopardize our ability to commence product sales and generate revenue.

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

In order to market and sell our products outside the U.S., we or our third-party collaborators may be required to obtain or maintain separate marketing approvals and comply with numerous and varying regulatory requirements. 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. Approval policies and requirements may vary among jurisdictions. 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 countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the U.S., including additional preclinical studies or clinical trials as clinical studies conducted in one jurisdiction may not be accepted by regulatory authorities in

other jurisdictions. In many jurisdictions outside the U.S., 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 or our collaborators may not be able to file for regulatory approval of our product candidates in international jurisdictions or obtain approvals from regulatory authorities outside the U.S. on a timely basis, if at all. The FDA or other regulatory agencies may also withdraw approval for previously approved products.

We may also submit marketing applications in other countries. Regulatory authorities in jurisdictions outside of the U.S. 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.

We are, and if we receive regulatory approval of our product candidates, will continue to 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.

Any regulatory approvals that we receive for our product candidates will require ongoing surveillance to monitor the safety and efficacy of the product candidate. Although not required for Amtagvi® or Proleukin®, it is possible in the future that the FDA may also require a REMS to approve our product candidates, which could entail requirements for 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. The FDA may also require post-approval Phase 4 studies. Moreover, the FDA and comparable foreign regulatory authorities will continue to closely monitor the safety profile of any product even after approval. If the FDA or comparable foreign regulatory authorities become aware of new safety information after approval of any of our product candidates, they may withdraw approval, require labeling changes or establishment of a REMS or similar strategy, impose significant restrictions on a product's indicated uses or marketing, or impose ongoing requirements for potentially costly post-approval studies or post-market surveillance. Any such restrictions could limit sales of the product.

In addition, we, our contractors, and our collaborators are and will remain responsible for FDA compliance, including requirements related to product design, testing, clinical trials and preclinical studies approval, manufacturing processes and quality, labeling, packaging, distribution, adverse event and deviation reporting, storage, advertising, marketing, promotion, sale, import, export, submissions of safety and other post-marketing information and reports such as deviation reports, establishment registration, product listing, annual user fees, and recordkeeping for our product candidates.

We and any of our collaborators, including our contract manufacturers, could be subject to periodic unannounced inspections by the FDA to monitor and ensure compliance with regulatory requirements. Application holders must further notify the FDA, and depending on the nature of the change, obtain FDA pre-approval for product and manufacturing changes. The cost of compliance with post-approval regulations may have a negative effect on our operating results and financial condition.

Later discovery of previously unknown problems with our product candidates, including adverse events of unanticipated severity or frequency, that the product is less effective than previously thought, problems with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on the marketing, distribution, or manufacturing of our product candidates, withdrawal of the product from the market, or voluntary or mandatory product recalls;
- restrictions on the labeling of our product candidates, including required additional warnings, such as black box warnings, contraindications, precautions, and restrictions on the approved indication or use;
- modifications to promotional pieces;
- changes to product labeling or the way the product is administered;
- liability for harm caused to patients or subjects;
- fines, restitution, disgorgement, warning letters, untitled letters, or holds on or termination of 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;
- injunctions or the imposition of civil or criminal penalties, including imprisonment;

- FDA debarment, debarment from government contracts, and refusal of future orders under existing contracts, exclusion from federal healthcare programs, consent decrees, or corporate integrity agreements;
- regulatory authority issuance of safety alerts, Dear Healthcare Provider letters, press releases, or other communications containing warnings or other safety information about the biologic;
- FDA restrictions on manufacturing or distribution if there is an inability to trace the source of a problem due to the nature of cell therapy;
- withdrawal of regulatory approvals for the Proleukin® product;
- reputational harm; or
- the product becoming less competitive.

Any of these events could further have other material and adverse effects on our operations and business and could adversely impact our stock price and could significantly harm our business, financial condition, results of operations, and prospects.

The FDA's and other regulatory authorities' policies may change, and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the U.S. or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained, be subject to other regulatory enforcement action, and we may not achieve or sustain profitability.

If we fail to comply with applicable healthcare and promotional laws, including fraud and abuse and information privacy and security laws, we could face substantial penalties and our business, financial condition, results of operations, and prospects could be adversely affected.

As a biopharmaceutical company, we are subject to many federal and state healthcare laws, including the federal Anti-Kickback Statute, or the AKS, the federal civil and criminal False Claims Act, or the FCA, the civil monetary penalties statute, or the CMP Law, the Medicaid Drug Rebate statute and other price reporting requirements, the Veterans Health Care Act of 1992, or the VHCA, HIPAA, the Foreign Corrupt Practices Act of 1977, or FCPA, the Patient Protection and Affordable Care Act of 2010, or the ACA, and similar state laws. Even though we do not and will not control referrals of healthcare services or bill directly to Medicare, Medicaid, or other third-party payors, certain federal and state healthcare laws and regulations pertaining to fraud and abuse, disclosures, and patients' rights are and will be applicable to our business. If we do not comply with all applicable laws, we may be subject to enforcement by both the federal government and the states in which we conduct our business as well as by other third parties, such as patients.

We do not currently participate in the Medicaid Drug Rebate Program. If we fail to comply with the reporting and payment obligations under the Medicaid Drug Rebate Program or other governmental pricing programs because we incorrectly determined participating was not required, we could be subject to certain reimbursement requirements, penalties, sanctions, and fines, which could adversely impact our business, financial condition, results of operations, and prospects. In the event that we begin to participate in such a program, in certain circumstances, our products would be subject to ceiling prices set by such programs, which could reduce the revenue we may generate from any such products. Participation in such programs would also expose us to the risk of significant civil monetary penalties, sanctions, and fines should we be found to be in violation of any applicable obligations thereunder.

Laws and regulations require calculation and reporting of complex pricing information for prescription drugs, and compliance will require us to invest in significant resources and develop a price reporting infrastructure or depend on third parties to compute and report our drug pricing. Pricing reported to the Centers for Medicare & Medicaid Services, or CMS, must be certified. Non-compliant activities expose us to FCA risk if they result in overcharging agencies, underpaying rebates to agencies, or causing agencies to overpay providers.

If we or our operations are found to be in violation of any federal or state healthcare law, or any other governmental regulations that apply to us, we may be subject to penalties, including civil, criminal, and administrative penalties, damages, fines, disgorgement, debarment from government contracts, refusal of orders under existing contracts, exclusion from participation in U.S. federal or state health care programs, corporate integrity agreements, and the curtailment or restructuring of our operations, any of which could materially adversely affect our ability to operate our business and our financial results. If any of the physicians or other healthcare providers or entities with whom we expect to do business, including our collaborators, is found not to be in compliance with applicable laws, they may be subject to criminal, civil, or administrative sanctions, including but not limited to, exclusions from participation in government healthcare programs, which could also materially affect our business.

In order to obtain additional clarification on the AKS or the CMP Law, a written interpretative advisory opinion can be requested from the Department of Health and Human Services' Office of Inspector General, or OIG, regarding existing or contemplated arrangements. Advisory opinions are binding as to the OIG, but only with respect to the requesting party or parties. The advisory opinions are not binding as to other governmental agencies (e.g., the Department of Justice) and certain matters (e.g., whether certain payments made in conjunction with conduct seeking to meet certain safe harbor protections are at fair market value) are not within the purview of an advisory opinion. In 2024, the OIG issued to us a favorable advisory opinion concluding that a proposed arrangement, providing travel and lodging for certain patients and caregivers in connection with a patient's receipt of our cell therapy product, presented a sufficient low risk of fraud and abuse under the AKS and did not generate prohibited remuneration under the CMP Law. We offer travel and lodging support for patients and caregivers who meet our criteria and have structured our program in line with the OIG advisory opinion. While we believe we have properly structured our support in compliance with the AKS and the CMP Law, we cannot guarantee that the OIG or other regulators will not be able to successfully challenge our arrangements.

In particular, if we are found to have impermissibly promoted any of our product candidates, we may become subject to significant liability and government fines. We, and any of our collaborators, must comply with requirements concerning advertising and promotion for any of our product candidates for which we or they obtain marketing approval. Promotional communications with respect to therapeutics are subject to a variety of legal and regulatory restrictions and continuing review by the FDA, Department of Justice, the OIG, and state attorneys general. Additionally, advertising and promotional activities may be scrutinized and challenged by members of Congress, competitors, healthcare professionals, and the public. When the FDA or comparable foreign regulatory authorities issue regulatory approval for a product candidate, the regulatory approval is limited to those specific uses and indications for which a product is approved. If we are not able to obtain FDA approval for desired uses or indications for our products and product candidates, we may not market or promote our products for those indications and uses, referred to as off-label uses, and our business may be adversely affected. We further must be able to sufficiently substantiate any claims that we make for our products including claims comparing our products to other companies' products and must abide by the FDA's strict requirements regarding the content of promotion and advertising.

While physicians may choose to prescribe products for uses that are not described in the product's labeling and for uses that differ from those tested in clinical trials and approved by the regulatory authorities, we are prohibited from marketing and promoting the products for indications and uses that are not specifically approved by the FDA. These off-label uses are common across medical specialties and may constitute an appropriate treatment for some patients in varied circumstances. Regulatory authorities in the U.S. generally do not restrict or regulate the behavior of physicians in their choice of treatment within the practice of medicine. Regulatory authorities do, however, restrict communications by biopharmaceutical companies concerning off-label use.

The FDA and other agencies actively enforce the laws and regulations regarding product promotion, particularly those prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted a product may be subject to significant sanctions. The federal government has levied large civil and criminal fines against companies for alleged improper promotion and has enjoined several companies from engaging in off-label promotion. The FDA has also requested that companies enter into consent decrees of permanent injunctions under which specified promotional conduct is changed or curtailed. Thus, we and any of our collaborators will not be able to promote any products we develop for indications or uses for which they are not approved.

In the U.S., engaging in the impermissible promotion of our products, following approval, for off-label uses can also subject us to false claims and other litigation under federal and state statutes, including fraud and abuse and consumer protection laws, which can lead to civil and criminal penalties and fines, agreements with governmental authorities that materially restrict the manner in which we promote or distribute therapeutic products and do business through, for example, corporate integrity agreements, suspension or exclusion from participation in federal and state healthcare programs, and debarment from government contracts and refusal of future orders under existing contracts. These false claims statutes include the federal civil FCA, which allows any individual to bring a lawsuit against a biopharmaceutical company on behalf of the federal government alleging submission of false or fraudulent claims or causing others to present such false or fraudulent claims, for payment by a federal program such as Medicare or Medicaid. If the government decides to intervene and prevails in the lawsuit, the individual will share in the proceeds from any fines or settlement funds. If the government declines to intervene, the individual may pursue the case alone. These FCA lawsuits against manufacturers of drugs and biologics have increased significantly in volume and breadth, leading to several substantial civil and criminal settlements, up to $3.0 billion, pertaining to certain sales practices and promoting off-label uses. In addition, FCA lawsuits may expose manufacturers to follow-on claims by private payors based on fraudulent marketing practices. This growth in litigation has increased the risk that a biopharmaceutical company will have to defend a false claim action, pay settlement fines or restitution, as well as criminal and civil penalties, agree to comply with burdensome reporting and compliance obligations, and be excluded from Medicare, Medicaid, or other federal and state healthcare programs. If we or our future collaborators do not lawfully promote our approved products, if any, we may become subject to such

litigation and, if we do not successfully defend against such actions, those actions may have a material adverse effect on our business, financial condition, results of operations and prospects.

Although an effective compliance program can mitigate the risk of investigation and prosecution for violations of these laws, the risks cannot be entirely eliminated. Moreover, achieving and sustaining compliance with applicable federal and state fraud laws may prove costly. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business.

In the EU, companies may not promote unauthorized products or therapeutic indications. Therefore, it is generally prohibited to disseminate information regarding off-label uses of medicinal products. Exceptionally, companies may provide information on unauthorized products or indications in response to a written unsolicited request by an HCP (*i.e.*, on a reactive basis only), as that is excluded from the definition of advertising under EU law. This should be done through the medical team/Medical Science Liaisons, or MSLs, and not the marketing/sales representatives. Moreover, specific rules may apply in each EU member state as regards the interactions between MSLs and HCPs.

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

In both domestic and foreign markets, sales of our product candidates, if approved, depend on the availability of coverage and adequate reimbursement from third-party payors. Such third-party payors include government health programs such as Medicare and Medicaid, managed care entities, private health insurers, self-insured employers, and other organizations. In addition, because our product candidates represent new approaches to the treatment of cancer for which no reimbursement rates may currently or definitively apply, we cannot accurately estimate the potential revenue from our product candidates.

Patients who are provided medical treatment for their conditions often rely on third-party payors to reimburse all or part of the costs associated with their treatment. Obtaining coverage and adequate reimbursement from payors is critical to new product acceptance.

Third-party payors, including government health care programs, decide which drugs and treatments they will cover and the amount of reimbursement. Coverage decisions may depend upon clinical and economic standards that disfavor new drug products when more established or lower cost therapeutic alternatives are already available or subsequently become available. If reimbursement is not available, or is available only to limited levels, our product candidates may be competitively disadvantaged, and we, or our collaborators, may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us, or our collaborators, to establish or maintain a market share sufficient to realize a sufficient return on our or their investments. Alternatively, securing favorable reimbursement terms may require us to compromise pricing and prevent us from realizing an adequate margin over cost. Reimbursement by a third-party payor may depend upon a number of factors, including, but not limited to, 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.

Federal and state legislatures and agencies continue to promulgate laws and regulations impacting coverage and reimbursement of drugs and treatments. For example, on September 26, 2024, the CMS issued a final rule titled "Medicaid Program; Misclassification of Drugs, Program Administration and Program Integrity Updates Under the Medicaid Drug Rebate Program," which may impact our reimbursement and rebate strategy.

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 the payor supporting scientific, clinical, and cost-effectiveness data for the use of our products. Payors may refuse to provide coverage for or may deny reimbursement for a product, depending on how they view such data. 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. If payors subject our product candidates to maximum payment amounts or impose limitations that make it difficult to obtain reimbursement, providers may choose to use therapies which are less expensive when compared to our product candidates. Payors may require co-payments that patients find unacceptably high. Moreover, the factors noted above have continued to be the focus of policy and regulatory debate that has, thus far, shown the potential for movement towards permanent policy changes;

this trend is apt to continue, and may result in more or less favorable impacts on pricing. In some cases, we do not have long-term agreements with insurance companies but negotiate single-case agreements on a case-by-case basis to obtain prior authorization, coverage, and reimbursement for a particular case. Likewise, in the absence of a long-term agreement with an insurance company, there is no guarantee that an insurance company will enter into a single-case agreement with us or otherwise provide prior authorization for a particular case, in which case there may be no or inadequate coverage and reimbursement for our products. Seeking prior authorization and negotiating the single-case agreement may take anywhere from days to months to obtain, if at all, and may cause ATCs, clinics, and patients to decline to use our products.

Providers may be unlikely to prescribe, and patients may be 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. This effort may include post-marketing studies in order to demonstrate the cost-effectiveness of any future products to the satisfaction of hospitals and other target customers and their third-party payors. Such studies might require us to commit a significant amount of management time and financial and other resources. Our future products might not ultimately be considered cost-effective. Adequate third-party coverage and reimbursement might not be available to enable us to maintain price levels sufficient to realize an appropriate return on investment in product development.

In the U.S., no uniform policy of coverage and reimbursement for products exists among third-party payors. Therefore, coverage and reimbursement for products can differ significantly from payor to payor and from jurisdiction to jurisdiction. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific, clinical, and cost-effectiveness data to support the use of our product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be obtained. In the EU, each member state is responsible for establishing the price and reimbursement conditions of medicinal products placed in its market.

Prices paid for a drug also vary depending on the class of trade. Prices charged to government customers are subject to price controls, including ceilings, and private institutions obtain discounts through group purchasing organizations. Net prices for drugs may be further reduced by mandatory discounts or rebates required by government healthcare programs and demanded by private payors. It is also not uncommon for market conditions to warrant multiple discounts to different customers on the same unit, such as purchase discounts to institutional care providers and rebates to the health plans that pay them, which reduces the net realization on the original sale.

In addition, federal programs impose penalties on manufacturers of drugs marketed under an NDA or BLA, in the form of mandatory additional rebates and/or discounts if commercial prices increase at a rate greater than the Consumer Price Index-Urban, and these rebates and/or discounts, which can be substantial, may impact our ability to raise commercial prices. Regulatory authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications, which could affect our ability or that of our collaborators to sell our product candidates profitably. These payors may not view our products, if any, as cost-effective, and coverage and reimbursement may not be available to our customers, or those of our collaborators, or may not be sufficient to allow our products, if any, to be marketed on a competitive basis. Cost control initiatives could cause us, or our collaborators, to decrease, discount, or rebate a portion of the price we, or they, might establish for products, which could result in lower than anticipated product revenues. If the realized prices for our products, if any, decrease or if governmental and other third-party payors do not provide adequate coverage or reimbursement, our prospects to generate revenue and achieve profitability will decline. Moreover, recent and ongoing series of congressional hearings relating to drug pricing has presented heightened attention to the biopharmaceutical industry, creating the potential for political and public pressure. The potential for resulting legislative or policy changes presents uncertainty.

Assuming coverage is approved, the resulting reimbursement payment rates might not be adequate. If payors subject our product candidates to maximum payment amounts or impose limitations that make it difficult to obtain reimbursement, providers may choose to use therapies which are less expensive when compared to our product candidates. Additionally, if payors require high copayments, beneficiaries may decline prescriptions and seek alternative therapies. We may need to conduct post-marketing studies in order to demonstrate the cost-effectiveness of any future products to the satisfaction of hospitals and other target customers and their third-party payors. Such studies might require us to commit a significant amount of management time and financial and other resources. Our future products might not ultimately be considered cost-effective. Adequate third-party coverage and reimbursement might not be available to enable us to maintain price levels sufficient to realize an appropriate return on investment in product development.

Third-party payors, whether domestic or foreign, or governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs. In addition, third-party payors are requiring higher levels of evidence of the benefits and clinical outcomes of new technologies and are challenging the prices charged. We, and our collaborators, cannot be sure that coverage will be

available for any product candidate that we, or they, commercialize and, if available, that the reimbursement rates will be adequate. Further, the net reimbursement for drug products may be subject to additional reductions if there are changes to laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the U.S. An inability to promptly obtain coverage and adequate payment rates from both government-funded and private payors for any our product candidates for which we obtain marketing approval could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products, and our overall financial condition.

There have been, and likely will continue to be, legislative and regulatory proposals at the federal and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. We cannot predict the initiatives that may be adopted in the future. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare and/or impose price controls may adversely affect:

- the demand for our product candidates if we obtain regulatory approval;
- our ability to set a price that we believe is fair for our products;
- our ability to generate revenue and achieve or maintain profitability;
- the level of taxes that we are required to pay; and
- the availability of capital.

Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors, which may adversely affect our future profitability. A particular challenge for our product candidates arises from the fact that they will primarily be used in an inpatient setting. Inpatient reimbursement generally relies on stringent packaging rules that may mean that there is no separate payment for our product candidates. Additionally, data used to set the payment rates for inpatient admissions is usually several years old and would not take into account all of the additional therapy costs associated with the administration of our product candidates. If special rules are not created for reimbursement for immunotherapy treatments such as our product candidates, hospitals might not receive enough reimbursement to cover their costs of treatment, which will have a negative effect on their adoption of our product candidates.

We are subject to new legislation, regulatory proposals, and healthcare payor initiatives that may increase our costs of compliance and adversely affect our ability to market our products, obtain collaborators, and raise capital.

In the U.S. and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities, and affect our ability, or the ability of our collaborators, to profitably sell any products for which we obtain marketing approval. We expect that current laws, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we, or our collaborators, may receive for any approved products.

In the EU, several pieces of legislation recently approved—or still in the process of being approved—will impact regulatory procedures applicable to medicinal products, including those based on genes, tissues, or cells, or Advanced Therapy Medicinal Products. These include, among others, the new Regulation (EU) 2024/1938 on standards of quality and safety for substances of human origin intended for human application and the new Regulation (EU) 2021/2282 on health technology assessment, which went into effect on January 12, 2025. Moreover, on April 10, 2024, the European Parliament adopted its position on the European Commission proposal to reform EU pharmaceutical legislation, consisting of a new directive replacing Directive 2001/83/EC and a new regulation replacing Regulation (EC) 726/2004. If approved, this will represent the most significant review of EU pharmaceutical legislation since 2004. The changes proposed are far reaching, including a change in the period of standard regulatory exclusivity, a package of incentives aimed at addressing unmet medical needs, and an extension of the so-called Bolar exemption.

Moreover, it is unclear how regulations and sub-regulatory policy, which fluctuate continually, may affect interpretation and further implementation of the existing law and its practical effects on our business. We are unable to predict the future course of federal or state healthcare legislation in the U.S. directed at broadening the availability of healthcare and containing or lowering the cost of healthcare, including drugs and biologics. Any further changes in the law or regulatory framework that reduce our revenue or increase our costs could also have a material and adverse effect on our business, financial condition and results of operations. In addition, there is a great degree of uncertainty regarding how recent U.S. Supreme Court decisions, including Loper Bright Enterprises v. Raimondo, 603 U.S. 369 (2024) and Corner Post, Inc. v. Board of Governors of the Federal Reserve System, 603 U.S. 799 (2024), will impact the FDA's enforcement and decision-making authority. Loper Bright explicitly overturned Chevron deference, which previously gave

judicial deference to administrative action by agencies in the executive branch. Furthermore, the Supreme Court's decision in Corner Post may result in challenges to FDA decisions by new litigants long into the future.

New federal and state healthcare reform measures may be adopted in the future that may result in more rigorous coverage criteria, increased regulatory burdens and operating costs, decreased net revenue from our pharmaceutical products, decreased potential returns from our development efforts, and additional downward pressure on the price that we receive for any approved drug. There is also an increasing focus on the price of drugs, both at the state and federal levels, and it is likely that additional pricing controls will be enacted and could harm our business, financial condition and results of operations. For instance, states such as California have begun enacting transparency laws aimed at curbing drug price increases and with the change in administration it is possible that President Trump may issue executive orders with the potential to change a number of prior executive branch actions on drug pricing. We continue to monitor the potential impact of proposals and recently enacted legislation to lower prescription drug costs at the federal and state level. As an example, of changes enacted by a new administration, the Inflation Reduction Act, or the IRA, was signed into law in August 2022 by President Biden, which makes significant changes to how drugs are covered and paid for under the Medicare program, including the creation of financial penalties for drugs whose prices rise faster than the rate of inflation, redesign of the Medicare Part D program to require manufacturers to bear more of the liability for certain drug benefits, and government price-setting for certain Medicare Part D drugs, starting in 2026, and Medicare Part B drugs starting in 2028. We continue to evaluate what effect, if any, the IRA may have on our business. Any reduction in reimbursement from Medicare or other government healthcare programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability or commercialize our products.

Legislative and regulatory proposals may also be made to expand post-approval requirements and restrict sales and promotional activities for drugs. We cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance, or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-marketing testing and other requirements.

In addition, there have been a number of other policy, legislative and regulatory proposals aimed at changing the pharmaceutical industry. The U.S. government, state legislatures and foreign governmental entities have shown significant interest in implementing cost containment programs to limit the growth of government-paid healthcare costs, including price controls, restrictions on reimbursement and coverage and requirements for substitution of generic products for branded prescription drugs. Adoption of government controls and measures and tightening of restrictive policies in jurisdictions with existing controls and measures, could exclude or limit our product candidates from coverage and limit payments for pharmaceuticals. We continue to monitor the potential impact of these and other proposals to lower prescription drug costs at the federal and state level.

At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

We are unable to predict the future course of federal or state healthcare legislation in the U.S. directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. Any changes in the law or regulatory framework that reduce our revenue or increase our costs could also have a material and adverse effect on our business, financial condition and results of operations.

Political uncertainty may have an adverse impact on our operating performance and results of operations, and uncertainty surrounding the potential legal, regulatory, and policy changes by a new U.S. presidential administration may directly affect us and the global economy.

General political uncertainty may have an adverse impact on our operating performance and results of operations. Changing regulatory policies resulting from the changing political environment could impact our regulatory and compliance costs and future revenues, all of which could materially and adversely affect our business, financial condition, and operating results. Failure to adapt to or comply with evolving regulatory requirements or investor or stakeholder expectations and standards could negatively impact our reputation, ability to do business with certain partners, access to capital, and our stock price. In particular, the U.S. continues to experience significant political events that cast uncertainty on global financial and economic markets, especially following the recent election. The new U.S. administration and recent congressional seat turnover may result in increased regulatory and economic uncertainty. Changes in federal policy by the executive branch and regulatory agencies may occur over time through the new presidential

administration's and/or Congress's policy and personnel changes, which could lead to changes involving the level of oversight and focus on the biopharmaceutical industry. However, the nature, timing, and economic and political effects of such potential changes remain highly uncertain. It is presently unclear exactly what actions the new presidential administration in the U.S. will implement, and if implemented, how these actions may impact the biopharmaceutical industry in the U.S. Any actions taken by the new presidential administration may have a negative impact on the U.S. economy and on our business, financial condition, and results of operations.

We are subject to a variety of U.S. and international laws and regulations.

We are currently subject to a number of government laws and regulations, and, in the future, could become subject to new government laws and regulations. The costs of compliance with such laws and regulations, or the negative results of non-compliance, could adversely affect our business, cash flow, results of operations, financial condition, and prospects; these laws and regulations include (i) additional health care reform initiatives in the U.S. or in other countries, including additional mandatory discounts or fees; (ii) the FCPA, FCA or other anti-bribery and corruption laws across all of the jurisdictions that we operate in; (iii) new laws, regulations, and judicial or other governmental decisions affecting pricing, drug reimbursement, and access or marketing within or across jurisdictions; (iv) changes in intellectual property laws; (v) changes in accounting standards; (vi) new and increasing data privacy regulations and enforcement, particularly in the EU, the U.S., and China; (vii) legislative mandates or preferences for local manufacturing of pharmaceutical products; (viii) emerging and new global regulatory requirements for reporting payments and other value transfers to HCPs; (ix) environmental regulations, such as the EU's Corporate Sustainability Reporting Directive; and (x) the potential impact of importation restrictions, embargoes, trade sanctions, and legislative and/or other regulatory changes.

Governments outside the U.S. tend to impose strict price controls, which may adversely affect our revenues, if any.

In international markets, reimbursement and health care payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. In some countries, particularly the countries of the EU and the UK, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain coverage and reimbursement or pricing approval in some countries, we may be required to undergo a health technology assessment or conduct a clinical trial that compares the cost-effectiveness of our product candidate to other available therapies. There can be no assurance that our products will be considered cost-effective by third-party payors, that an adequate level of reimbursement will be available, or that the third-party payors' reimbursement policies will not adversely affect our ability to sell our products profitably. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be harmed, possibly materially.

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

We are exposed to the risk of employee fraud or other illegal activity by our employees, independent contractors, consultants, commercial partners and vendors. Misconduct by these parties could include intentional, reckless and/or negligent conduct that fails to: comply with the laws of the FDA and other similar foreign regulatory bodies, provide true, complete and accurate information to the FDA and other similar foreign regulatory bodies, comply with manufacturing standards we have established, comply with healthcare fraud and abuse laws in the U.S. and similar foreign fraudulent misconduct laws, or report financial information or data accurately or to disclose unauthorized activities to us. If we obtain FDA approval of any of our product candidates and begin commercializing those products in the U.S., 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. 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.

We have adopted a Code of Conduct and Ethics, 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 comply 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, or our employees', consultants', collaborators', contractors', or vendors' 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, compliance agreements, withdrawal of product approvals, and curtailment of our operations, among other things, 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 U.S. will also likely subject us to foreign equivalents of the healthcare laws mentioned above, among other foreign laws.

Risks Related to Our Intellectual Property

We may be involved in lawsuits to protect or enforce our patents or the patents of our licensors, or lawsuits accusing our products of patent infringement, which could be expensive, time-consuming and unsuccessful.

Competitors may infringe the patents of our licensors. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that one or more of our patents is not valid or is unenforceable or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated, held unenforceable, or interpreted narrowly and could put our patent applications at risk of not issuing. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may be enjoined from manufacturing, use, and marketing our products, or may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure.

Periodic maintenance fees on any issued patent are due to be paid to the USPTO, and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with several procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, 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. Noncompliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. In such an event, our competitors might be able to enter the market, which would have a material adverse effect on our business.

We may incur substantial costs as a result of litigation or other proceedings relating to patent and other intellectual property rights.

The cost to us of any litigation or other proceeding relating to intellectual property rights, even if resolved in our favor, could be substantial. Some of our competitors may be better able to sustain the costs of complex patent litigation because they have substantially greater resources. If there is litigation against us, we may not be able to continue our operations.

Should third parties file patent applications or be issued patents claiming technology also used or claimed by us, we may be required to participate in interference proceedings in the USPTO to determine priority of invention. We may be required to participate in interference proceedings involving our issued patents and pending applications. We may be required to cease using the technology or to license rights from prevailing third parties as a result of an unfavorable outcome in an interference proceeding. A prevailing party in that case may not offer us a license on commercially acceptable terms.

Issued patents covering our product candidates could be found invalid or unenforceable if challenged in court or the USPTO.

If we or one of our licensing partners initiate legal proceedings against a third party to enforce a patent covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate, as applicable, is invalid and/or unenforceable. In patent litigation in the U.S., 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. Third parties may also raise similar claims before administrative bodies in the U.S. or abroad, even outside the context of litigation. Such mechanisms include re-examination, post grant review, and equivalent proceedings in foreign jurisdictions (*e.g.*, opposition proceedings). For example, on November 24, 2021, an opposition proceeding was initiated in the European Patent Office against our European Patent No. 3601533

B1. This opposition proceeding, or any similar proceedings that may arise in the U.S. or foreign jurisdictions, could result in revocation or amendment to our patents in such a way that they no longer 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, our patent counsel and the patent examiner were unaware during prosecution. If a defendant or third party were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates. Such a loss of patent protection could have a material adverse impact on our business.

If we are unable to protect our proprietary rights, we may not be able to compete effectively or operate profitably.

Our success is dependent in part on maintaining and enforcing the patents and other proprietary rights that we have licensed and may develop, and on our ability to avoid infringing the proprietary rights of others. Certain of our intellectual property rights are licensed from another entity, and as such the preparation and prosecution of these patents and patent applications was not performed by us or under our control. Furthermore, patent law relating to the scope of claims in the biotechnology field in which we operate is still evolving and, consequently, patent positions in our industry may not be as strong as in other more well-established fields. The patent positions of biotechnology companies can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in biotechnology patents has emerged to date.

The issuance of a patent is not conclusive as to its validity or enforceability and it is uncertain how much protection, if any, will be given to the patents we own or have licensed from the NIH, Cellectis or Novartis if any of these parties, or we, attempt to enforce the patents and/or if they are challenged in court or in other proceedings, such as oppositions, which may be brought in foreign jurisdictions to challenge the validity of a patent. A third party may challenge the validity or enforceability of a patent after its issuance by the Patent Office. It is possible that a competitor may successfully challenge our patents or that a challenge will result in limiting their coverage. Moreover, the cost of litigation to uphold the validity of patents and to prevent infringement can be substantial. If the outcome of litigation is adverse to us, third parties may be able to use our patented invention without payment to us. Moreover, it is possible that competitors may infringe our patents or successfully avoid the patented technology through design innovation. To stop these activities, we may need to file a lawsuit. These lawsuits are expensive and would consume time and other resources, even if we were successful in stopping the violation of our patent rights. In addition, there is a risk that a court would decide that our patents are not valid and that we do not have the right to stop the other party from using the inventions. There is also the risk that, even if the validity of our patents were upheld, a court would refuse to stop the other party on the grounds that its activities are not covered by, that is, do not infringe, our patents.

Should third parties file patent applications, or be issued patents claiming technology also used or claimed by our licensor(s) or by us in any future patent application, we may be required to participate in interference proceedings in the USPTO to determine priority of invention for those patents or patent applications that are subject to the first-to-invent law in the U.S., or may be required to participate in derivation proceedings in the USPTO for those patents or patent applications that are subject to the first-inventor-to-file law in the U.S. We may be required to participate in such interference or derivation proceedings involving our issued patents and pending applications. We may be required to cease using the technology or to license rights from prevailing third parties as a result of an unfavorable outcome in an interference proceeding or derivation proceeding. A prevailing party in that case may not offer us a license on commercially acceptable terms.

We cannot prevent other companies from licensing most of the same intellectual properties that we have licensed or from otherwise duplicating our business model and operations.

Certain intellectual properties that we are using to develop TIL-based cancer therapy products were licensed to us by the NIH. The issued or pending patents that the NIH licensed to us are exclusive and specific with respect to melanoma, breast, HPV-associated, bladder, and lung cancers. No assurance can be given that the NIH has not previously licensed, or that the NIH hereafter will not license to other biotechnology companies some or all of the non-exclusive technologies available to us under the NIH License Agreement. In addition, one pending U.S. patent application in the NIH License Agreement is not owned solely by the NIH. No assurance can be given that NIH's co-owner of the certain pending U.S. patent application in the NIH License Agreement has not previously licensed, or that the co-owner thereafter will not license, to other biotechnology companies some or all of the technologies available to us. Co-ownership of these intellectual properties will create issues with respect to our ability to enforce the intellectual property rights in courts and will create issues with respect to the accountability of one entity with respect to the other.

Since the NCI and numerous other academic institutions already use TIL cell therapy for the treatment of metastatic melanoma and other indications, their methods and data are also available to third parties, who may want to enter into our line of business and compete against us. Other than the Gen 2 manufacturing process, our licensed rights, and our method of use rights in certain indications,

we currently do not own any exclusive rights on our entire product portfolio that could be used to fully prevent third parties from duplicating our business plan or from otherwise directly competing against us. While additional technologies that may be developed under our CRADA may be licensed to us on an exclusive basis, no assurance can be given that our existing exclusive rights will be sufficient to prevent others from competing with us and developing substantially similar products.

The use of our technologies could potentially conflict with the rights of others.

Our potential competitors or others may have or acquire patent rights that they could enforce against us. If they do so, then we may be required to alter our products, pay licensing fees or cease activities. If our products conflict with patent rights of others, third parties could bring legal actions against us or our collaborators, licensees, suppliers or customers, claiming damages and seeking to enjoin manufacturing, use and marketing of the affected products. If these legal actions are successful, in addition to any potential liability for damages (including treble damages and attorneys' fees for willful infringement), we could be required to obtain a license to continue manufacturing, promoting the use or marketing the affected products. We may not prevail in any legal action and a required license under the patent may not be available on acceptable terms or at all.

We have conducted extensive freedom-to-operate, or FTO, analyses of the patent landscape with respect to our lead product candidates. Although we continue to undertake FTO analyses of our manufacturing processes, our lead TIL products, and contemplated future processes and products, because patent applications do not publish for 18 months, and because the claims of patent applications can change over time, no FTO analysis can be considered exhaustive. Furthermore, patent and other intellectual property rights in biotechnology remains an evolving area with many risks and uncertainties. As such, we may not be able to ensure that we can market our product candidates without conflict with the rights of others.

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

As is the case with other cell therapy and biopharmaceutical companies, our success is dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involves both technological and legal complexity, and is therefore costly, time-consuming and inherently uncertain. In addition, the U.S. has recently enacted and is currently implementing wide-ranging patent reform legislation. Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and 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. Depending on decisions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future. While we do not believe that any of the patents owned or licensed by us will be found invalid based on this decision, we cannot predict how future decisions by the courts, the U.S. Congress or the USPTO may impact the value of our patents.

We have limited foreign intellectual property rights and may not be able to protect our intellectual property rights throughout the world.

We have limited intellectual property rights outside the U.S. Filing, prosecuting and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the U.S. can be less extensive than those in the U.S. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the U.S. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the U.S., or from selling or importing products made using our inventions in and into the U.S. or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the U.S. These products may compete with our products 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, trade secrets and other intellectual property protection, particularly those relating to biopharmaceutical products, 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. 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 develop or license.

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

We have received confidential and proprietary information from third parties and our employees and contractors. In addition, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information of these third parties or our employees' former employers. Litigation may be necessary to defend against or pursue these claims. For example, we are currently engaged in litigation involving counterclaims that we have brought relating to theft of certain of our trade secrets, breach of confidentiality, and related counterclaims. Even if we are successful in resolving these claims, litigation could result in substantial costs and be a distraction to our management and employees.

Risks Related to Our Securities

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

Our officers, directors, and principal stockholders currently beneficially own a substantial portion of our outstanding voting stock. Therefore, these stockholders have the ability and may continue to have the ability to influence our corporate decision making. Given current ownership levels, these stockholders may be able to determine some or all matters requiring stockholder approval. For example, these stockholders, acting together, may be able to control or influence elections of directors, amendments to our certificate of incorporation or bylaws, or approval of any merger, sale of assets, or other major corporate transaction. This level of control may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may believe are in your best interest as one of our stockholders.

Our stock price may be volatile, and our stockholders' investment in our stock could decline in value.

The market price of our common stock is likely to be volatile and could fluctuate widely in response to many factors, including but not limited to:

- volatility and instability in the capital markets due to the COVID-19 pandemic;
- announcements of the results of clinical trials by us, our collaborators, or our competitors, or negative developments with respect to similar products, including those being developed by our collaborators;
- developments with respect to patents or proprietary rights;
- announcements of technological innovations by us or our competitors;
- announcements of new products or new contracts by us or our competitors;
- actual or anticipated variations in our operating results due to the level of development expenses and other factors;
- changes in financial estimates by equities research analysts and whether our earnings meet or exceed such estimates;
- conditions and trends in the pharmaceutical, biotechnology and other industries;
- receipt, or lack of receipt, of funding in support of conducing our business;
- regulatory developments within, and outside of, the U.S.;
- litigation or arbitration;
- general volatility in the financial markets;
- general economic, political and market conditions and other factors; and
- the occurrence of any of the risks described in this Annual Report on Form 10-K.

You may experience future dilution as a result of future equity offerings or other equity issuances.

We may have to raise additional capital in the future. To raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may be lower than the current price per share of our common stock. In addition, investors purchasing shares or other securities in the future could have rights superior

to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by investors in prior offerings. Any such issuance could result in substantial dilution to our existing stockholders.

Future sales of our common stock in the public market could cause our stock price to fall.

Our stock price could decline as a result of sales of a large number of shares of our common stock or the perception that these sales could occur. These sales, or the possibility that these sales may occur, also might make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate.

As of December 31, 2024, we had 305,252,194 shares of common stock outstanding. In addition, we had 30,944,293 shares of common stock equivalents that would increase the number of common stock outstanding if these instruments were exercised or converted to purchase common stock based on vesting requirements of stock options and common stock issuable through purchases of employee stock purchase plan, or upon the conversion of preferred stock. The issuance and subsequent sale of the shares underlying these common stock equivalents could depress the trading price of our common stock. On June 10, 2019, our certificate of incorporation was amended to increase the number of authorized shares of our common stock, from 150,000,000 shares to 300,000,000 shares, which was approved by our stockholders on that date. On June 16, 2023, our certificate of incorporation was amended to increase the number of authorized shares of our common stock from 300,000,000 to 500,000,000 shares, which amendment was approved by our stockholders on June 6, 2023.

In addition, in the future, we may issue additional shares of common stock or other equity or debt securities convertible into common stock in connection with a financing, acquisition, litigation settlement, employee arrangements or otherwise. For example, in February 2024, we issued 23,014,000 shares of common stock in connection with an underwritten public offering, and we may offer additional shares under our automatic shelf registration statement in the future. Future issuances may result in substantial dilution to our existing stockholders and could cause our stock price to decline.

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

Although we have research coverage by equities analysts, if coverage is not maintained, the market price for our stock may be adversely affected. Our stock price also may decline if any analyst who covers us issues an adverse or erroneous opinion regarding us, our business model, our intellectual property or our stock performance, or if our clinical trials and operating results fail to meet analysts' expectations. If one or more analysts cease coverage of us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our stock price or trading volume to decline and possibly adversely affect our ability to engage in future financings.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results. As a result, we could become subject to sanctions or investigations by regulatory authorities and/or stockholder litigation, which could harm our business and have an adverse effect on our stock price.

As a public reporting company, we are subject to various regulatory requirements, including the Sarbanes-Oxley Act of 2002, which requires our management to assess and report on our internal controls over financial reporting. Nevertheless, in future years, our testing, or the subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls that we would be required to remediate in a timely manner to be able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act each year. If we are not able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act each year, we could be subject to sanctions or investigations by the SEC, Nasdaq or other regulatory authorities which would require additional financial and management resources and could adversely affect the market price of our common stock. In addition, material weaknesses in our internal controls could result in a loss of investor confidence in our financial reports.

We are, and in the future may be, subject to federal or state securities or related legal actions that could adversely affect our results of operations and our business.

Federal and state securities and related legal actions may result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business or affect our reputation. We may not be successful in defending future claims and cannot provide assurance that insurance proceeds will be sufficient to cover any costs or liability under such claims.

For example, on December 11, 2020, a purported stockholder derivative complaint was filed by plaintiff Leo Shumacher against us, as nominal defendant, and then current directors, as defendants, in the Court of Chancery in the State of Delaware, or the Court. The complaint alleges breach of fiduciary duty and a claim for unjust enrichment in connection with alleged excessive compensation of certain of our non-executive directors and seeks unspecified damages on behalf of our company. The parties agreed to proposed settlements in 2022 and 2024, which the Court declined to approve. The Company continues to vigorously defend against the complaint. The outcome of this and other future litigation is uncertain.

Our Board of Directors could issue one or more additional series of preferred stock without stockholder approval with the effect of diluting existing stockholders and impairing their voting and other rights.

Our certificate of incorporation, as amended, authorizes the issuance of up to 50,000,000 shares of "blank check" preferred stock (of which only 17,000 shares were issued as Series A Convertible Preferred Stock and 11,500,000 shares were issued as Series B Convertible Preferred Stock) with designations, rights, and preferences as may be determined from time to time by our Board of Directors. Our Board of Directors is empowered, without stockholder approval, to issue one or more series of preferred stock with dividend, liquidation, conversion, voting, or other rights which could dilute the interest of, or impair the voting power of, our common stockholders. The issuance of a series of preferred stock could be used as a method of discouraging, delaying, or preventing a change in control. For example, it would be possible for our Board of Directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to effect a change in control of our company.

We do not anticipate paying cash dividends for the foreseeable future, and therefore investors should not buy our stock if they wish to receive cash dividends.

We have never declared or paid any cash dividends or distributions on our common stock. We currently intend to retain our future earnings to support operations and to finance expansion and, therefore, we do not anticipate paying any cash dividends on our common stock in the foreseeable future.

Provisions in our corporate charter documents and under Delaware law may prevent or frustrate attempts by our stockholders to change our management and hinder efforts to acquire a controlling interest in us, and the market price of our common stock may be lower as a result.

There are provisions in our certificate of incorporation, as amended, and amended and restated bylaws that may make it difficult for a third party to acquire, or attempt to acquire, control of our company, even if a change in control was considered favorable by you and other stockholders. For example, our Board of Directors has the authority to issue up to 38,483,000 additional shares of preferred stock and to fix the price, rights, preferences, privileges, and restrictions of the preferred stock without any further vote or action by our stockholders. The issuance of shares of preferred stock may delay or prevent a change in control transaction. As a result, the market price of our common stock and the voting and other rights of our stockholders may be adversely affected. An issuance of shares of preferred stock may result in the loss of voting control to other stockholders.

In addition, we are subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law, which regulates corporate acquisitions by prohibiting Delaware corporations from engaging in specified business combinations with particular stockholders of those companies. These provisions could discourage potential acquisition proposals and could delay or prevent a change in control transaction. They could also have the effect of discouraging others from making tender offers for our common stock, including transactions that may be in your best interests. These provisions may also prevent changes in our management or limit the price that investors are willing to pay for our stock.

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

Our certificate of incorporation, as amended, provides that, subject to limited exceptions, the Court of Chancery of the State of Delaware shall, to the fullest extent permitted by law, be the sole and exclusive forum for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, employees or agents to us or our stockholders, creditors or other constituents, (3) any action asserting a claim against us arising pursuant to any provision of the Delaware General Corporation Law, our certificate of incorporation, as amended, or our amended and restated bylaws, or (4) any other action asserting a claim against us that is governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have consented to the provisions of our

certificate of incorporation described above. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, or other employees, which may discourage such lawsuits against us and our directors, officers, and employees. Further, this choice of forum provision does not preclude or contract the scope of exclusive federal or concurrent jurisdiction for any actions brought under the Securities Act or the Exchange Act. Section 27 of the Exchange Act creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder. As a result, the exclusive forum provision will not apply to suits brought to enforce any duty or liability created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction.

In addition, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. As a result, the exclusive forum provision will not apply to suits brought to enforce any duty or liability created by the Securities Act or any other claim for which the federal and state courts have concurrent jurisdiction. Accordingly, our exclusive forum provision will not relieve us of our duties to comply with the federal securities laws and the rules and regulations thereunder, and our stockholders will not be deemed to have waived our compliance with these laws, rules and regulations.

If a court were to find these provisions of our certificate of incorporation, as amended inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, results of operations and financial condition. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management and other employees.

Provisions in our amended and restated bylaws could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated bylaws provide that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the U.S. shall be the exclusive forum for the resolution of any complaint asserting a cause of action under the Securities Act. This provision limits the ability of our shareholders to bring claims under the Securities Act in any court other than the U.S. federal courts, which ultimately may disadvantage our shareholders or be cost prohibitive. Notwithstanding the foregoing, there is uncertainty as to whether a court (other than those states which have upheld the validity of such a provision) would enforce such a provision and whether investors can waive compliance with the federal securities laws and the rules and regulations thereunder. Furthermore, the exclusive forum provision only applies to claims brought under the Securities Act and does not apply to actions arising under the Exchange Act, which is already subject to federal courts as the exclusive forum.

If a court were to find these provisions of our amended and restated bylaws inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, results of operations and financial condition. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management and other employees.

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity

We operate in the biopharmaceutical sector, which is subject to various cybersecurity risks that could adversely affect our business, financial condition, and the results of operations, including intellectual property theft, fraud, extortion, harm to employees, third party vendors or customers, violation of privacy laws and other litigation and legal risk, and reputational risk.

Risk Management and Strategy

We have designed and implemented a cybersecurity program which includes administrative, technical, and physical controls and processes to manage and mitigate material risks from internal and external cybersecurity threats, including but not limited to the following:

- A team responsible for designing, implementing, and continually improving our policies, procedures, and technology.
- A risk management process to identify, assess, and treat internal and external (third-party) cybersecurity risks.

- An incident management program to effectively and efficiently identify, review, and escalate incidents with the appropriate stakeholders (e.g., CEO, CFO, Legal, Finance, and others, as required).
- A vulnerability management program to scan and penetration test, on an ongoing basis, our systems and networks to identify and treat identified vulnerabilities.
- A security awareness program that educates our team members on an ongoing basis on internal security policies and secure behaviors.
- Engage with key vendors, industry participants and intelligence and law enforcement communities as part of continuing efforts to evaluate and enhance the effectiveness of our information security program.
- Periodically reporting risks, previous and current incidents, and ways to mitigate risks to the Chief Executive Officer, the Audit Committee of the Board of Directors, and other members of senior management.

As of the date of this report, we are not aware of any material risks from cybersecurity threats, including as a result of any previous cybersecurity incidents, that have materially affected our business strategy, results of operations, or financial condition. However, as discussed under "Risk Factors" in Part I, Item 1A of this Annual Report, cybersecurity threats pose multiple risks to us, including potentially to our results of operations and financial condition. Refer to Item 1A – "*Our internal computer systems, or those used by our CROs or other contractors or consultants, may fail or suffer security breaches*" and "*We are dependent on information technology, systems, infrastructure and data*," which are incorporated by reference into this Item 1C. As cybersecurity threats become more sophisticated and coordinated, it is reasonably likely that we will be required to expend greater resources to continue to modify and enhance our protective measures as we pursue our business strategies.

Governance:

- *Board of Directors*

The Audit Committee operates under a written charter adopted by the Company's Board of Directors. The Audit Committee oversees, among other things, a system of internal controls, including internal controls designed to assess, identify, and manage material risks from cybersecurity threats. The Audit Committee is also responsible for the adequacy and effectiveness of the Company's internal controls, including those internal controls that are designed to assess, identify, and manage material risks from cybersecurity threats. For further information about the Audit Committee's role in assessing and managing the registrant's material risks from cybersecurity threats, see "Risk Management and Strategy," under this Item 1C.

- *Management*

Our team of cybersecurity professionals is led by our Vice President, Infrastructure and Security, who along with other members of the IT team collectively over extensive experience in the cybersecurity space in both the pharmaceutical and non-pharmaceutical sectors, many of whom have obtained professional security certifications. The IT team has primary responsibility for our overall cybersecurity risk management program and supervises both our internal cybersecurity personnel and our retained external cybersecurity consultants. For further information about Management's role in assessing and managing the registrant's material risks from cybersecurity threats, see "Risk Management and Strategy," under this Item 1C.

Item 2. Properties

New San Carlos Headquarters Lease

On November 15, 2024, we entered into a sublease agreement, or the New Headquarters Lease, with a third party for Suite 100 in an existing building located at 825 Industrial Road, San Carlos, California, or the Building. Under the New Headquarters Lease, we will lease approximately 16,731 rentable square feet of space in the Building. The New Headquarters Lease is for a term of 24 months and commenced on December 12, 2024. The New Headquarters Lease includes two options to extend the term of the lease for 12 months each, exercisable under certain conditions and at a rate increased by 3% from the applicable monthly base rent as described in the New Headquarters Lease. Beginning on the commencement date, our monthly base rent under the New Headquarters Lease will be $0.1 million during the term. We are also responsible for paying operating expenses such as common area maintenance.

San Carlos Headquarters Lease

On February 8, 2021, we entered into a lease agreement, or the Headquarters Lease, for laboratories and offices to be constructed in Suite 400 of the Building. Under the Headquarters Lease, we leased approximately 49,918 rentable square feet of space in the Building that served as the premises for our headquarters. The Headquarters Lease, which commenced in January 2022, had an initial term of 120 months and included an option to extend the term of the lease for 60 months, exercisable under certain conditions and at a market rate as described in the Headquarters Lease.

Commencing 210 days after the rent commencement date as the result of a rent abatement, our monthly base rent under the Headquarters Lease was approximately $0.3 million, subject to an annual increase of 3%. We were also responsible for paying operating expenses such as common area maintenance.

Minimum rental payments under the Headquarters Lease totaled $36.7 million for the entire term of the lease, which does not include rental payments related to our one-time option to extend for an additional five years. In addition, the lessor has provided a tenant improvement allowance of up to $8.2 million, of which, to date, we have received reimbursements associated with this tenant improvement allowance totaling $8.1 million. We do not expect to receive any additional reimbursements associated with this tenant improvement allowance.

On November 15, 2024, the Company entered into an Agreement for Termination of Lease and Voluntary Surrender of Premises with the Landlord, or the Termination Agreement, in connection with the termination of that certain Lease Agreement, dated as of February 8, 2021, with the Landlord, or the Prior Headquarters Lease, of Suite 400 of the Building, or the Prior Premises. Pursuant to the Termination Agreement, the Company and the Landlord agreed to terminate the Prior Headquarters Lease effective as of the earlier of (i) the date the Company vacates and surrenders the Prior Premises in accordance with all the conditions and requirements set forth in the Prior Headquarters Lease; or (ii) 11:59 p.m. Pacific Time on December 31, 2024.

In connection with the termination of the Prior Headquarters Lease, the Company agreed to surrender the Prior Premises and pay a lease modification payment to the Landlord upon mutual execution of the Termination Agreement.

The Prior Headquarters Lease termination is related to continued efforts by the Company to identify cost reduction opportunities. Concurrently with the termination of the Prior Headquarters Lease and the effectiveness of the Termination Agreement, the Company intends to relocate its offices to the Premises, with significantly reduced square footage and ongoing operating costs.

Commercial Manufacturing Facility Agreement

On May 28, 2019, we entered into a lease agreement, or the Commercial Manufacturing Facility Lease, for a build-to-suit commercial manufacturing facility, laboratories, and offices located in Philadelphia, Pennsylvania. Under the Commercial Manufacturing Facility Lease, we lease approximately 136,000 rentable square feet of space in a building located at 300 Rouse Boulevard, Philadelphia, Pennsylvania known as the Iovance Cell Therapy Center, or the *i*CTC. The construction of the *i*CTC began in July 2019 and in the third quarter of 2021 we completed the commissioning activities as well as certain tenant improvements. The Commercial Manufacturing Facility Lease includes an option to extend the term of the lease by giving the landlord prior written notice thereof at least 18 months in advance of expiration date, exercisable under certain conditions as described in the Commercial Manufacturing Facility Lease, such that the overall term, when added to the initial term, shall be 359 months.

Our monthly base rent under the Commercial Manufacturing Facility Lease is approximately $0.3 million, subject to an annual increase of 2% for the first ten years. Commencing on the first day of each lease year thereafter, for the remainder of the lease term, monthly rent is subject to an annual increase of the greater of 2% or 75% of the average ten-year consumer price index. We are also responsible for paying operating expenses, such as common area maintenance.

Tampa Lease

Our research and development facilities consist of 8,673 square feet in a facility located at the University of South Florida Research Park in Tampa, Florida. These facilities are leased under an agreement with a lease term through December 2024 for approximately $20,500 a month. In June 2020, we amended the lease agreement to further increase the rentable space to 13,139 square feet and extend the lease term to June 5, 2025, for approximately $34,500 a month. On December 22, 2021, we entered into a second

amendment to lease an additional 2,731 square feet of space through June 5, 2025, co-terminus with the existing leased space. Upon completion of tenant improvements of the premises, lease payments will be approximately $45,000 per month.

Philadelphia Office Lease

On May 2, 2019, we entered into an agreement to lease approximately 1,500 square feet of office space in Philadelphia, Pennsylvania until July 1, 2019, for a rate of $2,000 a month, and then approximately 4,500 square feet of office space for the remainder of a three-year term at an initial rate of $11,063 per month, subject to annual increases of 2.5%. On September 1, 2021, we entered into an agreement to extend the lease term for an additional three years to July 31, 2025, for approximately $11,900 a month, effective as of June 1, 2022, subject to annual increases of 2.5%.

American National Red Cross Lease

On February 1, 2022, we entered into an agreement to lease approximately 4,500 square feet of rentable area located in Pennsylvania, consisting of laboratories, clean room and office space, for a three-year term at a rate of approximately $17,000 a month subject to an annual increase of 2.5%.

Netherlands Office Lease

On July 28, 2023, we entered into an agreement to lease satellite office space in Amsterdam, Netherlands for a twelve-month term at a rate of approximately €5,400 per month, which was renewed in 2024 to extend the lease term through July 28, 2025. Such agreement automatically renews for successive periods unless cancelled with no less than three months' notice prior to the end of the current term.

We believe that our existing facilities are adequate to meet our current needs, and that suitable additional alternative spaces will be available in the future on commercially reasonable terms.

Item 3. Legal Proceedings

The information in Note 16 to the consolidated financial statements contained in Part III, Item 15 of this Annual Report on Form 10-K is incorporated herein by reference. There are no matters which constitute material pending legal proceedings to which we are a party other than those incorporated into this item by reference from Note 11 to our consolidated financial statements for the year ended December 31, 2024, contained in this Annual Report on Form 10-K.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

Market Information

Our common stock is traded on The Nasdaq Global Market under the symbol "IOVA."

Stockholders

As of December 31, 2024, there were approximately 18 holders of record of our common stock.

Dividends

We have never declared or paid any cash dividends on our common stock or any other securities. We anticipate that we will retain all available funds and any future earnings, if any, for use in the operation of our business and do not anticipate paying cash dividends in the foreseeable future. Payment of future cash dividends, if any, will be at the discretion of the Board of Directors after considering various factors, including our financial condition, operating results, current and anticipated cash needs.

Under the terms of our Series A Convertible Preferred Stock, we may not declare, pay or set aside any dividends on shares of any class or series of capital stock (other than dividends on shares of common stock payable in shares of common stock) unless the holders of our Series A Convertible Preferred Stock first receive, or simultaneously receive, an equal dividend on each outstanding share of Series A Convertible Preferred Stock.

Under the terms of our Series B Convertible Preferred Stock, holders shall be entitled to receive dividends on shares equal (on an as-if-converted-to-Common-Stock basis) to and in the same form as dividends (other than dividends in the form of common stock) actually paid on shares of our Series A Convertible Preferred Stock, common stock or other junior securities when, as and if such dividends (other than dividends in the form of common stock) are paid on shares of our Series A Convertible Preferred Stock, common stock or other junior securities. No other dividends shall be paid on shares of Series B Convertible Preferred Stock, and we may not pay dividends (other than dividends in the form of common stock) on shares of our Series A Convertible Preferred Stock, common stock or other junior securities unless it simultaneously complies with the previous sentence.

Unregistered Sales of Equity Securities

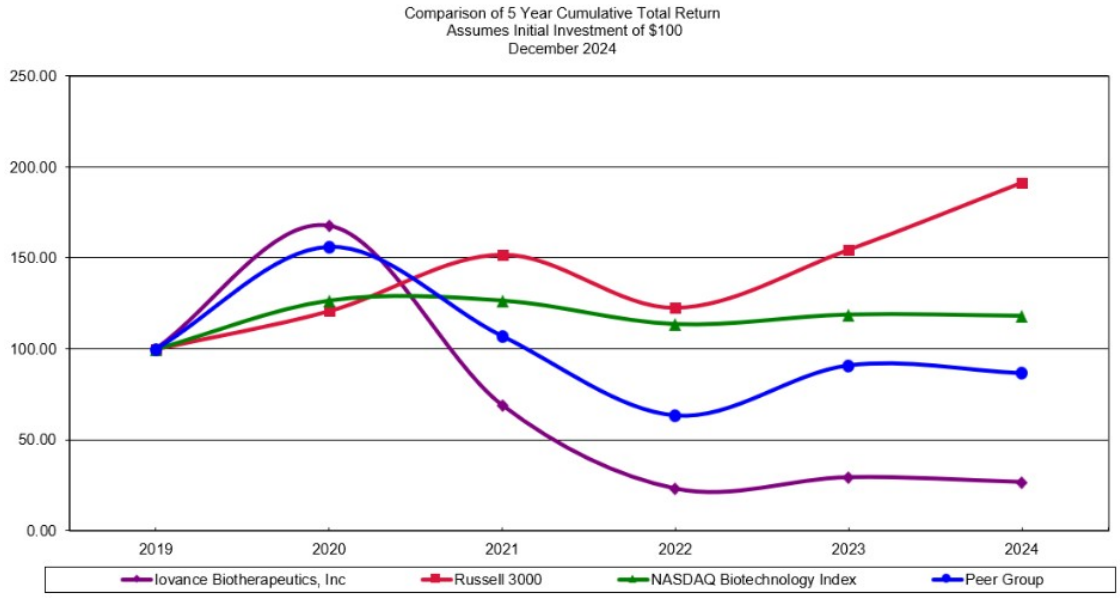
None.

Repurchases of Common Stock

There were no share repurchases during the year ended December 31, 2024.

Stock Performance Graph

The following graph illustrates a comparison of the total cumulative stockholder return on our common stock since December 31, 2019, to two indices: the Russell 3000 and the NASDAQ Biotechnology Index. The stockholder return shown in the graph below is not necessarily indicative of future performance, and we do not make or endorse any predictions as to future stockholder returns.



Equity Compensation Plan Information

Information regarding our equity compensation plans is incorporated by reference from the information in our Proxy Statement for our 2025 Annual Meeting of Stockholders, which we will file with the SEC within 120 days after the end of the fiscal year to which this Annual Report on Form 10-K relates.

Item 6. [Reserved]

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

The following discussion and analysis of our results of operations and financial condition should be read in conjunction with our financial statements and the notes to those financial statements that are included elsewhere in this report. Our discussion includes forward-looking statements based upon current expectations that involve risks and uncertainties, such as our plans, objectives, expectations and intentions. Actual results and the timing of events could differ materially from those anticipated in these forward-looking statements as a result of a number of factors, including those set forth under the "Business" section and elsewhere in this report. We use words such as "may," "will," "might," "could," "would," "should," "expect," "intend," "plan," "anticipate," "believe," "estimate," "predict," "project," "aim," "potential," "continue," "ongoing," "goal," "forecast," "guidance," "outlook," or the negative of these terms or other similar expressions to identify forward-looking statements, although not all forward-looking statements contain these words. All forward-looking statements included in this report are based on information available to us on the date hereof and, except as required by law, we assume no obligation to update any such forward-looking statements.

Overview

We are a commercial-stage biopharmaceutical company pioneering a transformational approach to treating cancer by harnessing the human immune system's ability to recognize and destroy diverse cancer cells using therapies personalized for each patient. Our mission is to be the global leader in innovating, developing, and delivering tumor infiltrating lymphocyte, or TIL, cell therapies for patients with solid tumor cancers. We are executing the U.S. launch of Amtagvi® (lifileucel), the first product within our autologous TIL cell therapy platform, while also marketing Proleukin® (aldesleukin), an interleukin-2, or IL-2, product used in the Amtagvi® treatment regimen and in other applications. Amtagvi® is the first and the only one-time, individualized T cell therapy to receive U.S. Food and Drug Administration, or the FDA, approval for a solid tumor cancer. Amtagvi® is a tumor-derived autologous T cell immunotherapy indicated for the treatment of adult patients with unresectable or metastatic melanoma previously treated with a PD-1 blocking antibody, and if BRAF V600 mutation positive, a BRAF inhibitor with or without a MEK inhibitor. This indication was approved in February 2024 under accelerated approval based on an endpoint of overall response rate, or ORR. Continued approval for this indication may be contingent upon verification and description of clinical benefit in future confirmatory trials. Amtagvi® and Proleukin® are part of a treatment regimen that also includes lymphodepletion.

Beyond the U.S., we plan to launch Amtagvi® into additional markets with a high prevalence of advanced melanoma, including the European Union, or EU, United Kingdom, or UK, Canada, Switzerland, and Australia. In June 2024, we submitted a centralized marketing authorization application, or MAA, to the European Medicines Agency, or the EMA, for lifileucel. In August 2024, the MAA was validated and accepted for review by the EMA. In October 2024, an MAA was submitted to the Medicines and Healthcare products Regulatory Agency in the UK. A new drug submission, or NDS, was deemed eligible for Notice of Compliance with Conditions or NOC/c by Health Canada and submitted in December 2024 and then accepted in January 2025. The NOC/c policy includes a prioritized 200-day review process for potential NDS approval in mid-2025. If approved, lifileucel is expected to be the first and only approved therapy in this treatment setting in these markets. Across the U.S. and other targeted global markets, Amtagvi® has the potential to address more than 20,000 previously treated advanced melanoma patients annually.

Iovance was founded to build upon the promise of TIL cell therapy that was previously demonstrated in single-center clinical trials at academic research centers, including the National Cancer Institute, or the NCI. Our multi-center trials, novel TIL cell therapy products, manufacturing processes, facilities, and bioanalytical platforms have transformed TIL cell therapy into a commercially viable treatment which thousands of patients with cancer can access.

We manufacture Amtagvi® and our investigational TIL cell therapies using centralized, scalable, and proprietary manufacturing processes which rejuvenate and multiply polyclonal T cells unique to each patient into the billions and yields a cryopreserved, individualized therapy. Amtagvi® is manufactured for commercial use at our manufacturing facility, the Iovance Cell Therapy Center, or the *i*CTC, and by a contract manufacturing organization, or CMO.

Our development pipeline includes multicenter trials of TIL cell therapies in additional treatment settings and indications for solid tumor cancers. To potentially improve outcomes for patients, we are investigating TIL monotherapies for patients previously treated with standard of care therapies and TIL cell therapy in combination with standard of care therapies for patients in earlier treatment settings. We are conducting two ongoing registrational trials to support a supplementary BLA, or sBLA, of lifileucel in frontline advanced melanoma and in advanced non-small cell lung cancer, or NSCLC, following standard of care chemo-immunotherapy. We

are also developing next generation therapies, such as genetically modified TIL cell therapy and next generation cytokines for use in the TIL cell therapy regimen.

Corporate Strategy

A global leader in innovating, developing, and delivering TIL cell therapy

Our mission is to be the global leader in innovating, developing, and delivering TIL cell therapy for patients with solid tumor cancers. We are pioneering this transformational approach to cure cancer by harnessing the human immune system's ability to recognize and destroy diverse cancer cells in each patient. As we continue to execute the U.S. launch of Amtagvi® and advance our pipeline, we are committed to continuous innovation to develop TIL cell therapies and optimize TIL treatment regimens that may extend and improve life for patients with cancer.

Successfully commercialize our lead product Amtagvi® for the treatment of post-anti-PD-1 advanced melanoma in the U.S.

Following U.S. FDA approval of Amtagvi® for the treatment of patients with post-anti-PD-1 advanced melanoma on February 16, 2024, our top priority is continuing to leverage our experienced marketing, payer access, and distribution teams, as well as a sales force with extensive experience in oncology and cell therapy for our commercialization efforts. Our medical affairs team is also educating key opinion leaders, or KOLs, about Amtagvi® and TIL cell therapy, as well as presenting and publishing our clinical results.

We are focusing ongoing Amtagvi® commercialization efforts on four primary areas:

- supporting operations and patient enrollment at authorized treatment centers, or ATCs, in the U.S. and activating ATCs in the EU, UK, and Canada to prepare for anticipated 2025 regulatory approvals in those markets;
- educating, training, and collaborating with healthcare professionals, or HCPs, who will be administering our product, as well as community oncologists who will be referring patients to our ATCs and larger community practices that may become ATCs;
- operational excellence in launch execution, commercial manufacturing, and delivery of therapy; and
- continuous communication with payors about the value of Amtagvi® to facilitate strong reimbursement and patient access.

U.S. Commercial Launch of the First TIL Cell Therapy in Advanced Melanoma

Amtagvi®

Amtagvi® (lifileucel) was approved by the FDA on February 16, 2024, for the treatment of adult patients with unresectable or metastatic melanoma previously treated with a PD-1 blocking antibody, and if BRAF V600 mutation positive, a BRAF inhibitor with or without a MEK inhibitor. The approval is based on safety and efficacy results from the C-144-01 clinical trial, a global, multicenter trial investigating Amtagvi® in patients with advanced melanoma previously treated with anti-PD-1 therapy and targeted therapy, where applicable. We completed the BLA submission in March 2023, which the FDA accepted in May 2023 for Priority Review.

Amtagvi® is manufactured using a proprietary process to collect and multiply a patient's unique T cells from a portion of their tumor. Amtagvi® returns billions of the patient's T cells back to the body to fight cancer. Amtagvi® is administered to patients as part of a treatment regimen that includes lymphodepletion and a short course of high-dose Proleukin® (aldesleukin).

There are three key steps in the Amtagvi® treatment process.

- **Step 1: Sample Collection.** A tumor tissue sample of at least 1.5 cm in diameter is collected during a surgical resection and shipped to an approved, centralized manufacturing facility.

- **Step 2: Manufacturing.** Upon arrival at the manufacturing facility, TIL are separated from other cells within the patient's tumor tissue sample. Over the next 22 days, the cells are multiplied into the billions. Upon completion of manufacturing, Amtagvi® is quality tested to meet specific product release criteria. The final product is cryopreserved and sent back to the ATC for administration to the patient. Additional details on the Gen 2 manufacturing process are provided in the Manufacturing Process section of our Annual Report on Form 10-K.

- **Step 3: Treatment Regimen.** The Amtagvi® treatment regimen begins with non-myeloablative lymphodepletion, or NMA-LD, to suppress the immunosuppressive tumor microenvironment, which we believe enhances the efficacy of TIL cell therapy. After NMA-LD, Amtagvi® is infused and followed by a short course of up to six doses of Proleukin® to promote T cell activity.

Prior to the FDA approval of Amtagvi®, there were no FDA approved therapies for patients with advanced melanoma following anti-PD-1 therapy.

Proleukin®

Proleukin® (aldesleukin) is an IL-2 product used in the Amtagvi® treatment regimen and manufacturing process, as well as other commercial, clinical, manufacturing, and research settings, which provides additional revenue. In May 2023, we acquired the worldwide rights to Proleukin® as well as the manufacturing, supply, and commercialization income generated from such rights and associated operations from Clinigen Holdings Limited, Clinigen Healthcare Limited, and Clinigen, Inc, which we refer to collectively as Clinigen. Ownership of Proleukin® provides an additional revenue source, secures our Proleukin® supply chain, lowers cost of goods, and reduces clinical trial expenses for Proleukin® used with our TIL cell therapies.

Proleukin® has received regulatory approvals for treatment of adults with metastatic melanoma and metastatic renal cell carcinoma in the U.S. Proleukin® is also licensed in multiple countries around the world for treatment of patients with metastatic renal cell carcinoma and/or metastatic melanoma. We also sell aldesleukin for clinical trial use and for use in the manufacturing of various cell and gene therapies to numerous third-party clients.

Manufacturing capacity for forecasted commercial and clinical demand

We are the first company to obtain FDA approval for a TIL cell therapy product. We believe that we are the only company in the U.S. to have a centralized, scalable, and commercially viable TIL manufacturing process. In clinical trials, more than 700 patients have been treated with Iovance TIL cell therapy products manufactured using our proprietary processes across multiple indications. Iovance TIL cell therapies are manufactured for commercial use and clinical trials at our manufacturing facility, the *i*CTC, and by a CMO. The FDA authorized *i*CTC for commercial manufacturing of Amtagvi® as well as our CMO for additional capacity to supplement our internal manufacturing. As built, the two facilities together have capacity to treat several thousands of cancer patients annually with commercial product and clinical supply.

The *i*CTC is the first centralized and scalable current Good Manufacturing Practice, or cGMP, manufacturing facility dedicated to producing TIL cell therapies, as well as the first FDA-approved facility for commercial TIL cell therapy. Located in Philadelphia, Pennsylvania, the 136,000 square foot *i*CTC is among the largest cell therapy manufacturing facilities globally. *i*CTC expansion is underway which is expected to increase capacity to supply over five thousand patients annually. Our long-term goal is to establish a manufacturing network that can supply TIL cell therapies to over ten thousand patients per year. The proximity of the *i*CTC to multiple airports facilitates delivery of TIL cell therapies to treatment centers. The *i*CTC is expected to cover logistics and delivery of TIL cell therapies in North America, Europe, and Australia. Ownership of our manufacturing facility allows us to control internal manufacturing capacity and product quality, manage supply and delivery logistics, implement process improvement and realize potential cost efficiencies for TIL cell therapies that we may develop and commercialize. We are also exploring next generation TIL cell therapy manufacturing processes, treatments and technologies that may further streamline development timelines and costs. The *i*CTC has a flexible design that facilitates our expansion within the existing shell space and an option to build on an adjacent lot to support future growth and capacity needs.

We plan to carefully manage our cost structure and reduce the long-term cost of manufacturing our products. Details of related agreements are provided in the Research, Development, Manufacturing and License Agreements for TIL Cell Therapy section of this Annual Report on Form 10-K.

TIL Cell Therapy Clinical Development in Advanced, Metastatic or Unresectable Solid Tumor Cancers

Our TIL cell therapy platform and manufacturing process have been initially validated through the FDA approval of Amtagvi®. TIL cell therapy is a T cell-based immunotherapy technology platform that leverages patient-specific cells to recognize and attack diverse cancer cells that are unique to each patient. Unlike other cell therapies that act on a single or small number of shared antigen targets common to certain tumors, our individualized T cell therapies are polyclonal or designed to target a variety of neoantigens that are unique to the patient or tumor. We believe this polyclonal cell therapy may be applicable to many solid tumor cancers, where the majority of immune targets are patient-specific.

We have investigated TIL cell therapy in global, multicenter clinical trials in advanced melanoma, cervical cancer, non-small cell lung cancer, or NSCLC, and head and neck squamous cell carcinoma, or HNSCC. Through ongoing academic collaborations, as well as government and other partners, we are investigating the next frontier for TIL cell therapy in other tumor types and treatment settings.

- **Frontline Advanced Melanoma:** In frontline advanced melanoma patients who are naïve to anti-PD-1 therapy, we are investigating lifileucel in combination with pembrolizumab in TILVANCE-301, a randomized Phase 3 clinical trial intended to support registration in advanced frontline melanoma as well as to serve as a confirmatory trial to support full approval in post-anti-PD-1 advanced melanoma. TILVANCE-301 is expected to enroll approximately 670 patients and features dual primary endpoints of ORR and progression free survival, or PFS, assessed by blinded independent review committee. We also added Cohort 1D to our IOV-COM-202 trial to investigate lifileucel in combination with relatlimab and nivolumab in frontline advanced melanoma patients.

- **Advanced Non-Small Cell Lung Cancer:** In NSCLC, we are investigating lifileucel TIL cell therapy in two clinical trials in NSCLC patient populations with significant unmet need. IOV-LUN-202 is a registrational clinical trial of lifileucel in advanced NSCLC patients who have progressed following chemotherapy and anti-PD-1 therapy. The IOV-COM-202 trial in solid tumors includes cohorts of NSCLC patients treated with lifileucel monotherapy and combination therapy. We added Cohorts 3D and 3E to our IOV-COM-202 trial to investigate lifileucel in combination with pembrolizumab and chemotherapy in frontline advanced NSCLC patients.

- **Advanced Endometrial Cancer:** We initiated a clinical trial, IOV-END-201, in the second quarter of 2024 for lifileucel in endometrial cancer to potentially address the unmet need for patients previously treated with platinum-based chemotherapy and anti-PD-1 therapy regardless of mismatch repair.

- **Next Generation TIL Cell Therapy:** Our first genetically modified, TIL cell therapy, IOV-4001, is being investigated in the multi-center Phase 2 efficacy portion of a first-in-human clinical trial, IOV-GM1-201, in previously treated patients with advanced melanoma or NSCLC. IOV-4001 utilizes the gene-editing TALEN® technology, licensed from the clinical-stage biotechnology company, Cellectis S.A., or Cellectis, to inactivate the gene coding for PD-1. A second next generation TIL cell therapy, IOV-5001, is in Investigational New Drug, or IND, enabling studies. IOV-5001 is a genetically engineered, inducible, and tethered interleukin-12 TIL cell therapy designed to enhance TIL efficacy while optimizing safety.

- **Next Generation IL-2:** A Phase 1/2 clinical trial is underway to investigate IOV-3001, a second-generation, modified interleukin-2 analog, for use in the TIL therapy treatment regimen. Preclinical studies of IOV-3001 demonstrated the potential for improved safety with strong effector T cell expansion.

- **Additional Solid Tumor Cancers:** Iovance TIL cell therapy has been investigated in additional solid tumor cancers in Iovance- and investigator-sponsored clinical trials. Lifileucel was evaluated as a monotherapy and in combination with pembrolizumab in the Phase 2 C-145-03 and IOV-COM-202 clinical trials in multiple patient cohorts with metastatic HNSCC, and in patients with advanced cervical cancer in the C-145-04 multicenter Phase 2 clinical trial. Indications studied in investigator sponsored clinical trials supported by Iovance include soft tissue sarcoma, osteosarcoma, pancreatic and colorectal cancer, platinum resistant ovarian cancer, anaplastic thyroid cancer, and triple negative breast cancer.

Next-Generation TIL Therapy Product Candidates

Our next-generation technology platforms are designed to optimize outcomes with TIL cell therapy across three key initiatives: genetic modifications, potency, and new treatment regimens.

- *Genetic modifications:* In addition to IOV-4001, we are pursuing several targets for genetic modification that utilize the gene-editing TALEN® platform licensed from Cellectis. Single- and multiple- knockouts may further harness the immune system response to cancer and potentially increase the potency of TIL cell therapy. Preclinical development is ongoing with additional TIL products and TIL-cell lines using transient and stable gene inactivation, which may expand and activate TIL to achieve better efficacy while avoiding systemic side effects.

- *Cytokine-Tethered TIL Therapy*: Our genetically engineered, inducible, and tethered IL-12 TIL cell therapy, designated IOV-5001, is in IND-enabling studies. In preclinical studies, IOV-5001 augmented anti-tumor activity in vitro, and a clinical trial of

a prior generation IL-12 TIL therapy at the NCI showed improved efficacy. A pre-IND meeting is planned with the FDA to discuss IOV-5001 in the first quarter of 2025 and then an IND application submission in 2026.

- *New treatment regimens:* We are exploring potential improvements to the TIL treatment regimen. We are investigating IOV-3001, a second generation, modified IL-2 analog, which we licensed from Novartis Pharma AG in 2020. We submitted an IND application for a phase 1/2 clinical trial of IOV-3001 for use in the TIL therapy treatment regimen in the third quarter of 2024, which was accepted in the fourth quarter of 2024. Results from non-human primate and IND-enabling studies of IOV-3001 were presented at the American Society of Clinical Oncology's 2024 Annual Meeting and demonstrate the potential for improved safety with strong effector T cell expansion.

Intellectual Property

We have established a leading intellectual property portfolio developed internally and licensed from third parties. We currently own more than 75 U.S. patents related to TIL cell therapy, including patents directed to compositions and methods of treatment in a broad range of cancers, such as U.S. Patent Nos. 10,130,659; 10,166,257; 10,272,113; 10,363,273; 10,398,734; 10,420,799; 10,463,697; 10,517,894; 10,537,595; 10,639,330; 10,646,517; 10,653,723; 10,695,372; 10,894,063; 10,905,718; 10,918,666; 10,925,900; 10,933,094; 10,946,044; 10,946,045; 10,953,046; 10,953,047; 11,007,225; 11,007,226; 11,013,770; 11,026,974; 11,040,070; 11,052,115; 11,052,116; 11,058,728; 11,083,752; 11,123,371; 11,141,438; 11,168,303; 11,168,304; 11,179,419; 11,202,803; 11,202,804; 11,220,670; 11,241,456; 11,254,913; 11,266,694; 11,273,180; 11,273,181; 11,291,687; 11,304,979; 11,304,980; 11,311,578; 11,337,998; 11,344,579; 11,344,580; 11,344,581; 11,351,197; 11,351,198; 11,351,199; 11,364,266; 11,369,637; 11,384,337; 11,433,097; 11,517,592; 11,529,372; 11,541,077; 11,713,446; 11,819,517; 11,857,573; 11,865,140; 11,866,688; 11,939,596; 11,969,444; 11,975,028; 11,981,921; 12,023,355; 12,024,718; 12,031,157; 12,104,172; 12,121,541; 12,159,700; 12,170,134; 12,188,048 and 12,194,061. More than 40 of these patents are related to our Gen 2 TIL manufacturing processes and have terms that we anticipate will extend to October 2037 or January 2038, not including any patent term extensions or adjustments that may be available. Our owned and licensed intellectual property portfolio also includes patents and patent applications relating to TIL, marrow-infiltrating lymphocytes, or MIL, and peripheral blood lymphocyte, or PBL, therapies; frozen tumor-based TIL technologies; remnant TIL and digest TIL compositions, methods, and processes; methods of manufacturing TIL, MIL, and PBL therapies; the use of costimulatory and T cell modulating molecules in TIL cell therapy and manufacturing; stable and transient genetically-modified TIL cell therapies, including genetic knockouts of immune checkpoints; cytokine-tethered TIL cell therapies; methods of using immune checkpoint inhibitor, or ICIs, in combination with TIL cell therapies; TIL selection technologies; and methods of treating patient subpopulations.

Components of Operating Results

Revenues

Revenues for the year ended December 31, 2024 represent product sales of Amtagvi®, as well as Proleukin®, primarily driven from sales in the U.S. to support the ongoing commercial launch of Amtagvi®, which received FDA approval in February 2024. Proleukin®, which we acquired the worldwide rights to in May 2023, is also sold in markets outside the U.S., primarily in the EU and UK. Prior to May 2023, we had not recognized any revenue.

Amtagvi® revenue is recognized upon patient infusion, while Proleukin® revenue is recognized upon shipment or delivery to customers, which include specialty distributors, clinical manufacturers, research organizations, and ATCs. Revenue is reduced at the time of recognition for expected chargebacks, discounts, rebates, and sales allowances, collectively referred to as gross to net adjustments, or GTN adjustments. In the U.S., these GTN adjustments are attributable to various commercial arrangements and government programs. In addition, non-U.S. government programs include different pricing schemes such as cost caps and volume discounts.

Costs and Expenses

Cost of sales

Cost of sales includes inventory and period costs, as well as non-cash expenses, related to overhead and manufacturing costs of Amtagvi® during the period from approval through December 31, 2024, as well as the cost of inventories and other costs, and non-cash expenses that are directly associated with the purchase and sales of Proleukin®. In addition, cost of sales includes royalties payable on

sales of our products, as well as non-cash expenses including amortization of the fair value step-up of acquired Proleukin® inventory which is recognized as the acquired inventory units are sold, amortization expense for the developed technology intangible asset and the milestone payment recorded as part of the Acquisition, and the intellectual property license intangible assets.

In the event that the manufactured product does not meet specifications, or a patient is unable to receive the infusion, the Amtagvi® product is destroyed and the costs associated with manufacturing and inventory associated with the product is generally required to be expensed as cost of sales. However, if the out-of-specifications product can be administered as part of a clinical trial, in an expanded or early access program, or single-patient IND, as requested by the treating physician, the costs of the product are recorded as research and development expense based on the fact that we receive clinical data related to these infusions.

The manufacturing process for Amtagvi® is highly complex and subject to stringent FDA guidelines and requirements, as well as internal specifications and quality guidelines. Our ability to successfully manufacture Amtagvi® and deliver finished product to ATCs for infusion into patients is dependent on several factors, including patient selection and quality of tumors provided by the treatment centers for use in the manufacturing of Amtagvi®. We focus significant effort and attention on working with the treatment centers during the onboarding process regarding these matters, as well as on our internal manufacturing processes.

Research and development

Research and development expenses include personnel and facility-related expenses, outside contracted services including clinical trial costs, manufacturing and process development costs, research costs, and other consulting services. Research and development costs are expensed as incurred. Nonrefundable advance payments for goods or services that will be used or rendered for future research and development activities are deferred and amortized over the period that the goods are delivered, or the related services are performed, subject to an assessment of recoverability.

Clinical development costs are a significant component of research and development expenses. We have a history of contracting with third parties that perform various clinical trial activities on our behalf in connection with the ongoing development of our product candidates. The financial terms of these contracts are subject to negotiations and may vary from contract to contract and may result in an uneven payment flow. We accrue and expense costs for clinical trial activities performed by third parties based upon estimates of work completed to date of the individual trial in accordance with agreements established with contract research organizations and clinical trial sites. The duration, costs, and timing of our clinical trials and development of our product candidates will depend on a number of factors that include, but are not limited to, the number of patients that enroll in the trial, per patient trial costs, number of sites included in the trial, discontinuation rates of patients, duration of patient follow-up, efficacy and safety profile of the product candidate, and the length of time required to enroll eligible patients.

We expect to continue to incur research and development expenses for the foreseeable future as we continue to conduct our clinical trials for our various product candidates. We expect our research and development expenses to decrease in conjunction with an expected increase in commercial activities and selling, general, and administrative expense due to the approval of Amtagvi®. However, it is difficult to determine with certainty the duration and completion costs of our current or future preclinical programs and clinical trials of our product candidates.

Selling, general, and administrative

Selling, general, and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for personnel in executive, finance, procurement, legal, investor relations, facilities, business development, marketing, commercial, information technology and human resources functions. Other significant costs include facility costs not otherwise capitalized in inventory or included in research and development expenses, legal fees relating to corporate matters and intellectual property, insurance, public company expenses relating to maintaining compliance with Nasdaq listing rules and SEC requirements, investor relations costs, and fees for accounting and consulting services. Selling, general, and administrative costs are expensed as incurred, and we accrue for services provided by third parties related to the above expenses by monitoring the status of services provided and receiving estimates from its service providers and adjusting its accruals as actual costs become known.

We anticipate selling, general, and administrative expenses will increase as we execute the launch of Amtagvi® and market Proleukin®, as well as execute an expected expansion in the U.S. market and outside of the U.S. of the internal general and administrative team to support the overall growth in our business.

Interest and other income, net

Interest and other income, net is derived from our interest-bearing cash, cash equivalents and investment balances as well as other income associated with non-recurring activities such as lease terminations.

Income tax benefit

Income tax benefit pertains to the operations in the UK and realization of related deferred taxes.

Results of Operations for the Years Ended December 31, 2024 and 2023

Revenue

(in thousands)	Years Ended December 31,		Increase (Decrease)	
	2024	2023	$	%
Amtagvi®	$ 103,567	$ —	103,567	100
Proleukin®	60,503	1,189	59,314	4,988
Total product revenue	$ 164,070	$ 1,189	162,881	13,698

Revenue for the year ended December 31, 2024, increased by $162.9 million, or 13,698% compared to the same period in 2023. The increase was driven by the completion of the acquisition of worldwide rights to Proleukin® in May 2023, or the Acquisition, as well as the commercial launch of Amtagvi® in February 2024. Through the first quarter of 2024, product revenue was comprised entirely of product sales of Proleukin® in markets outside of the U.S. With the BLA approval of Amtagvi® in February 2024, we began generating revenue for Amtagvi® in the second quarter of 2024 as infusions occurred at our ATCs. Furthermore, in the second quarter of 2024, we began selling Proleukin® in the U.S. market. The Proleukin® inventory that was previously with distributors at the time of the Acquisition to support the U.S. market has been substantially sold, and, as a result, we experienced significant re-stocking demand from specialty distributors in both the second and third quarter of 2024 to support ongoing and anticipated infusions related to the strong commercial launch of Amtagvi®. GTN adjustments did not materially affect net product revenue in the years ended December 31, 2024 and 2023.

As it relates to revenue timing for our products, Amtagvi® infusions are expected to lag behind Amtagvi® related Proleukin® sales by 2-3 months, and we expect ATCs to utilize 15-18 Proleukin® vials per Amtagvi® infusion. While such Proleukin® sales are not directly indicative of future Amtagvi® revenues because of the timing of stocking activities by specialty distributors and because of sales that are not related to Amtagvi® infusions, such as sales of Proleukin® utilized in clinical manufacturing or clinical trials, such sales are one indicator of future Amtagvi® revenues.

Costs and expenses

The following table summarizes the period-over-period changes in our costs and expenses:

(in thousands)	Years Ended December 31,		Increase (Decrease)	
	2024	2023	$	%
Cost of sales	$ 123,995	$ 10,755	113,240	1,053
Research and development expense	282,336	344,077	(61,741)	(18)
Selling, general, and administrative expense	153,017	106,916	46,101	43

Cost of sales

Cost of sales for the year ended December 31, 2024, increased by $113.2 million, or 1,053% driven by the increase in sales of Amtagvi® and Proleukin®, as well as costs related to the manufacturing of Amtagvi®. Cost of sales included $21.0 million for the year ended December 31, 2024, compared to $9.7 million for the year ended December 31, 2023, of non-cash amortization expense for the developed technology intangible asset and the milestone payment recorded as part of the Acquisition as well as intellectual property license intangible assets. In addition, cost of sales included non-cash expense for the amortization of the fair value step-up of acquired Proleukin® inventory sold of $5.2 million for the year ended December 31, 2024, compared to $0.3 million for the year ended December 31, 2023. This expense is recorded as the units acquired in the Acquisition are sold, and we expect this amount to decrease over the next six to twelve months as this inventory is sold. In addition to the non-cash amortization expense, cost of sales included $14.2 million of

royalties payable related to sales of our products for the year ended December 31, 2024. There were no royalties payable for the year ended December 31, 2023.

Cost of sales for the year ended December 31, 2024, also included $26.3 million of period costs primarily related to patient drop-off driven by patient health and ability to receive the Amtagvi® treatment, as well as manufacturing results that did not meet required specifications, and were not otherwise utilized under an expanded access program or single-patient IND to generate clinical data, resulting in manufacturing costs in the period for which we were not able to recognize revenue. In addition, to a lesser extent, such costs included period costs incurred for the first few quarters after the launch of Amtagvi® related to overhead and manufacturing costs at the *i*CTC during the period from approval resulting from under absorption of overhead costs during the period, which was driven by our decision to launch with capacity sufficient to address anticipated commercial demand in 2024 and beyond. We continue to focus on manufacturing execution as the launch of Amtagvi® continues but could incur such period costs while we continue to implement initiatives associated with manufacturing quality.

Research and development expense

Research and development expense for the year ended December 31, 2024, decreased by $61.7 million, or 18%, compared to the same period in 2023. The decrease was primarily attributable to (i) a $97.7 million decrease in clinical manufacturing costs, driven by capitalization of qualified costs for Amtagvi® manufacturing resulting from our BLA approval and the transition to commercial manufacturing to support the commercial launch of Amtagvi®, (ii) a $4.4 million decrease in costs associated with the reclassification of certain activities supporting Amtagvi® into general and administrative expenses upon BLA approval based on their function, and (iii) a $0.9 million decrease in clinical costs, driven primarily by lower patient enrollment across certain studies. These decreases were partially offset by (i) a $29.5 million increase in payroll and related costs, including stock-based compensation, primarily driven by an increase in the number of employees and the number of stock awards granted at a higher average stock price, (ii) a $5.0 million charge for the impairment of leasehold improvements driven by the early termination of our headquarters lease during the fourth quarter of 2024 (exclusive of the gain on lease termination which is recorded in interest and other income, net), (iii) a $2.6 million increase in lab and consumable costs for the development of next generation candidates, (iii) a $2.9 million increase in license costs related to the expansion of our information technology infrastructure to support our clinical activities, and (iv) a $1.3 million increase in other costs, including travel and facility related costs.

Research and development activities are central to our business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We separate our research and development expenses into two broad categories: direct and indirect. Additionally, with respect to direct research and development expenses, we further divide expenses into the following sub-categories: “TIL, including combination therapy,” “Next Generation,” and “Others clinical, preclinical, and research programs under development.” Lifileucel monotherapy includes our TIL monotherapy clinical trials, including clinical trials previously reported as LN-145. For direct research and development expenses, we track specific project research and development expenses that are directly attributable to our preclinical and clinical development candidates that have been selected for further development. Such direct research and development expenses include third-party contract costs relating to the manufacturing of TILs as well as preclinical and clinical trial activities.

All remaining research and development expenses are categorized as indirect research and development expenses. Such indirect research and development expenses include employee salaries and benefits, stock-based compensation, consulting and contracted services to supplement our in-house activities, and costs associated with our facilities. These expenses are not directly tied to any individual project and are generally deployed across multiple projects. As such, we do not maintain information regarding those costs incurred on a project specific basis.

The table below summarizes our research and development expenses by therapeutic area (in thousands):

	Years Ended December 31,		Increase (Decrease)	
	2024	2023	$	%
Direct research and development expense by product candidate				
TIL, including combination therapy				
Lifileucel monotherapy	$ 65,573	$ 76,873	(11,300)	-15%
Combination Therapy	16,299	17,809	(1,510)	-8%
Next Generation	7,361	9,987	(2,626)	-26%
Others clinical, preclinical, and research programs under development	17,391	16,983	408	2%
Indirect research and development expense				
Personnel related (excluding stock-based compensation)	77,442	116,628	(39,186)	-34%
Stock-based compensation expense	49,274	34,926	14,348	41%
Contractors and outside services	6,557	20,636	(14,079)	-68%
Office and facilities	42,439	50,235	(7,796)	-16%
Total research and development	$ 282,336	$ 344,077	(61,741)	-18%

Selling, general, and administrative expense

Selling, general and administrative expense for the year ended December 31, 2024, increased by $46.1 million, or 43%, compared to the same period in 2023. The increase was primarily attributable to (i) a $28.0 million increase in payroll and related expenses, including stock-based compensation, driven by an increase in headcount to support the growth in the overall business as well as to support the commercialization of Amtagvi®, an increased number of stock awards granted at a higher average stock price, and the reclassification of costs of certain employees previously supporting research and development activities into general and administrative expense upon BLA approval based on their functional activities, (ii) a $3.8 million increase in legal costs driven by a reduction in legal costs in 2023 resulting from the capitalization of previously expensed costs directly associated with the Acquisition, (iii) a $7.0 million increase in costs incurred in support of the distribution and commercialization of Amtagvi® and Proleukin®, and (iv) a $2.4 million charge for the impairment of the leasehold improvements driven by the early termination of our headquarters lease during the fourth quarter of 2024 (exclusive of the gain on lease termination which is recorded in interest and other income, net), and (v) a $4.9 million increase in other costs, including costs associated with increased travel, software licenses related to the expansion of our information technology infrastructure, and professional fees.

Interest and other income, net

(in thousands)	Years Ended December 31, 2024	2023	Increase (Decrease) $	%
Interest and other income, net	$ 20,273	$ 13,043	7,230	55

Interest and other income, net for the year ended December 31, 2024, increased by $7.2 million, or 55%, compared to the same period in 2023. The increase was primarily driven by a $8.6 million gain on the termination of our headquarters lease during the fourth quarter of 2024 (exclusive of leasehold improvement impairments recorded as operating expense), partially offset by a $3.1 million lease termination related fee, and a $1.1 million increase in interest income, net, driven by an increase in average investment balances, resulting from net proceeds from recent public and at-the-market financing as well as a higher rate of return on our investments.

Income tax benefit

(in thousands)	Years Ended December 31, 2024	2023	Increase (Decrease) $	%
Income tax benefit	$ 2,828	$ 3,479	(651)	(19)

Income tax benefit for the year ended December 31, 2024, decreased by $0.7 million, or 19%, compared to the same period in 2023. This decrease was the result of increased operations in the UK.

Net loss

(in thousands)	Years Ended December 31, 2024	2023	(Increase) Decrease $	%
Net loss	$ (372,177)	$ (444,037)	$ 71,860	16

Net loss for the year ended December 31, 2024 decreased by $71.9 million, or 16%, compared to the year ended December 31, 2023. The decrease in our net loss was due to generating product revenue from product sales of Proleukin® and Amtagvi® in 2024, partially offset by an increase in cost of sales and the overall growth in our workforce and corporate infrastructure to support the ongoing launch of Amtagvi® in the U.S. and anticipated expansion in additional markets, as well as continued sales of Proleukin®, and ongoing and newly initiated clinical trials. We anticipate that we will continue to incur net losses in the future as we further invest in our clinical and internal research and development programs, as well as execution of the launch of Amtagvi®.

Results of Operations for the Years Ended December 31, 2023 and 2022

Revenue

(in thousands)	Years Ended December 31, 2023	2022	Increase (Decrease) $	%
Amtagvi®	$ —	$ —	—	—
Proleukin®	1,189	—	1,189	100
Total product revenue	$ 1,189	$ —	1,189	100

Revenue for the year ended December 31, 2023 was $1.2 million and related entirely to product sales of Proleukin® in licensed markets outside of the U.S following the completion of the Acquisition. To date, there have been no product sales of Proleukin® in the U.S. market, which at the time of the Acquisition had sufficient Proleukin® inventory in existing distributors to support U.S. market demand. There was no revenue for the year ended December 31, 2022.

Costs and expenses

The following table summarizes the period-over-period changes in our costs and expenses:

(in thousands)	Years Ended December 31, 2023	2022	Increase (Decrease) $	%
Cost of sales	$ 10,755	$ —	$ 10,755	100
Research and development expense	344,077	294,781	49,296	17
Selling, general, and administrative expense	106,916	104,097	2,819	3

Cost of sales

Cost of sales for the year ended December 31, 2023 was $10.7 million, which consists of $1.0 million cost of inventory and related inventoriable costs associated with sales of Proleukin® and $9.7 million of amortization expense for the developed technology intangible asset recorded as part of the Acquisition. No cost of sales was incurred for the year ended December 31, 2022.

Research and development expense

Research and development expense for the year ended December 31, 2023 increased by $49.3 million, or 17%, compared to the year ended December 31, 2022. The increase was primarily attributable to (i) a $40.0 million increase in payroll and related expenses, driven by increased hiring of research and development employees to support our manufacturing at the *i*CTC and clinical development activities, (ii) a $10.3 million increase in manufacturing costs to support the increased production and qualifying *i*CTC suites for commercial manufacturing readiness, (iii) a $7.0 million increase in clinical trial costs driven primarily by the initiation of our Phase 3 TILVANCE-301 clinical trial, (iv) a $5.9 million increase in facility and related costs, including depreciation, maintenance, environmental monitoring, and other costs primarily related to the *i*CTC build-out intended to expand manufacturing capacity, and (v) a $2.4 million increase in other costs, including license costs related to the expansion of our information technology infrastructure to support our clinical activities and research alliance costs. These expenses were partially offset by (i) a $15.3 million decrease in stock-

based compensation expenses, primarily driven by a lower average stock price, and (ii) a $1.0 million decrease in costs associated with travel and medical affairs activities such as publications and medical conferences.

Research and development activities are central to our business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We separate our research and development expenses into two broad categories: direct and indirect. Additionally, with respect to direct research and development expenses, we further divide expenses into the following sub-categories: "TIL, including combination therapy," "Next Generation," and "Others clinical, preclinical and research programs under development." For direct research and development expenses, we track specific project research and development expenses that are directly attributable to our preclinical and clinical development candidates that have been selected for further development. Such direct research and development expenses include third-party contract costs relating to the manufacturing of TILs as well as preclinical and clinical trial activities.

All remaining research and development expenses are categorized as indirect research and development expenses. Such indirect research and development expenses include employee salaries and benefits, stock-based compensation, consulting and contracted services to supplement our in-house activities, and costs associated with our facilities. These expenses are not directly tied to any individual project and are generally deployed across multiple projects. As such, we do not maintain information regarding those costs incurred on a project specific basis.

The table below summarizes our research and development expenses by therapeutic area (in thousands):

	Years Ended December 31,		Increase (Decrease)	
	2023	2022	$	%
Direct research and development expense by product candidate				
TIL, including combination therapy				
Lifileucel monotherapy	$ 35,487	$ 18,489	16,998	92%
Lifileucel	41,386	34,129	7,257	21%
Combination Therapy	17,809	26,873	(9,064)	-34%
Next Generation	9,987	3,895	6,092	156%
Others clinical, preclinical, and research programs under development	16,983	17,136	(153)	-1%
Indirect research and development expenses				
Personnel related (excluding stock-based compensation)	116,628	84,100	32,528	39%
Stock-based compensation expenses	34,926	50,242	(15,316)	-30%
Contractors and outside services	20,636	14,457	6,179	43%
Office and facilities	50,235	45,460	4,775	11%
Total Research and Development	$ 344,077	$ 294,781	49,296	17%

Selling, general, and administrative expense

Selling, general, and administrative expense for the year ended December 31, 2023, increased by $2.8 million, or 3%, compared to the year ended December 31, 2022. The increase was primarily attributable to (i) a $12.6 million increase in payroll and related expenses, resulting from increases in headcount to support the growth in the overall business and related corporate infrastructure, and (ii) a $5.0 million increase in professional fees and travel costs, including costs associated with Proleukin® integration. These increases were partially offset by (i) a $6.1 million decrease in stock-based compensation expenses, primarily driven by a lower average stock price, (ii) a $4.3 million decrease in legal costs related to intellectual property related matters, and (iii) a $4.4 million decrease in other costs, including marketing, advertising and software license costs.

Interest and other income, net

(in thousands)	Years Ended December 31, 2023	2022	Increase (Decrease) $	%
Interest and other income, net	$ 13,043	$ 2,985	10,058	337

Interest and other income, net results from our interest-bearing cash and investment balances. Net interest income increased by $10.1 million, or 337%, primarily due to increases in interest rates as well as a shift in our portfolio to interest bearing investments such as U.S. treasury securities and money market funds.

Income tax benefit

(in thousands)	Years Ended December 31, 2023	2022	Increase (Decrease) $	%
Income tax benefit	$ 3,479	$ —	3,479	100

Income tax benefit for the year ended December 31, 2023 was $3.5 million as a result of the tax benefit from the realization of the related deferred taxes for operations in the UK. No benefit or expense was recorded for the year ended December 31, 2022

Net loss

	Years Ended December 31, 2023	2022	(Increase) Decrease $	%
Net loss	$ (444,037)	$ (395,893)	(48,144)	(12)

Net loss for the year ended December 31, 2023, increased by $48.1 million, or 12.0%, compared to the year ended December 31, 2022. The increase in our net loss was due to the continued expansion of our research and development activities, ongoing and newly initiated clinical trials, and the overall growth in our workforce and corporate infrastructure as well as our pre-commercialization activities for lifileucel. We anticipate that we will continue to incur net losses in the future as we further invest in our clinical and internal research and development programs as well as the execution of the launch of Amtagvi®, the Proleukin® business integration, and both clinical and internal development programs.

Liquidity and Capital Resources

As of December 31, 2024, we had $330.1 million in cash, cash equivalents, investments, and restricted cash ($115.7 million in cash and cash equivalents, $208.1 million in short-term investments, and $6.4 million in restricted cash). We have incurred losses and generated negative cash flows from operations since inception. Historically, we have funded our operations from various public and private offerings of our equity securities, both common stock and preferred stock, from option and warrant exercises, and from interest income. Since 2017, our primary source of funds has been from the public sale of our common stock. With the approval of our BLA, we expect to continue to generate revenue from the sale of our product, Amtagvi®. Furthermore, as Proleukin® inventory that was previously with distributors in the U.S. market at the time of the Acquisition has been substantially depleted, we also began to sell Proleukin® into the U.S. market, where product margins are substantially higher than in other markets, to support ongoing and anticipated infusions related to the continued strong commercial launch of Amtagvi®. However, such revenues for Amtagvi® and Proleukin® may not be material enough to generate positive operational cash flows during the 12 months from the date the consolidated financial statements are issued and this Annual Report on Form 10-K is filed.

We expect to continue to incur significant expenses to support our execution of the commercial launch of Amtagvi®, fund ongoing clinical programs, including our NSCLC registrational study, IOV-LUN-202, and our frontline advanced melanoma Phase 3 confirmatory trial, TILVANCE-301, continue the development of our pipeline candidates, and for other general corporate purposes. Based on the funds we have available as of the date our consolidated financial statements for the year ended December 31, 2024 are issued, which includes net proceeds of approximately $122.3 million raised through the open market sales agreement through February 14, 2025, we believe that we have sufficient capital to fund our anticipated operating expenses and capital expenditures as planned for at least the next twelve months following the issuance of our consolidated financial statements included in this Annual Report on Form 10-K.

Corporate Capitalization

As of December 31, 2024, we had outstanding 305,252,194 shares of our $0.000041666 par value common stock, 194 shares of our $0.001 par value Series A Convertible Preferred Stock, and 2,842,158 shares of our $0.001 par value Series B Convertible Preferred Stock. The outstanding shares of Series A Convertible Preferred Stock are currently convertible into 97,000 shares of our common stock, and the outstanding shares of Series B Convertible Preferred Stock are currently convertible into 2,842,158 shares of our common stock. The shares of Series A Convertible Preferred Stock and Series B Convertible Preferred Stock do not have voting rights or accrue dividends.

On February 8, 2021, we entered into an Open Market Sale Agreement, or the 2021 Sale Agreement, with Jefferies LLC, or Jefferies, with respect to an "at the market" offering program, under which we were able to, from time to time, in our sole discretion, issue and sell through Jefferies, acting as sales agent, up to $350.0 million of shares of our common stock.

On November 18, 2022, we entered into a new Open Market Sale Agreement, or the 2022 Sale Agreement, with Jefferies with respect to an "at the market" offering program. Under the terms of the 2022 Sale Agreement, we were able to, from time to time, in our sole discretion, issue and sell up to $500.0 million of shares of our common stock pursuant to the "at the market" offering program. The 2022 Sale Agreement superseded and replaced in its entirety the 2021 Sale Agreement, which was terminated by the Company.

On June 16, 2023, we entered into a new Open Market Sale Agreement, or the 2023 Sale Agreement, with Jefferies with respect to an "at the market" offering program. Under the terms of the 2023 Sale Agreement, we may, from time to time, in our sole discretion, issue and sell up to $450.0 million of shares of our common stock pursuant to the "at the market" offering program. The 2023 Sale Agreement superseded and replaced in its entirety the 2022 Sale Agreement, which was terminated by the Company. The issuance and sale, if any, of shares of our common stock under the 2023 Sale Agreement was or will be made pursuant to a prospectus supplement dated June 16, 2023 to our Registration Statement on Form S-3ASR, which became effective immediately upon filing with the U.S. Securities and Exchange Commission on June 16, 2023. We received $301.7 million in proceeds, net of offering costs, through the sale of 44,080,226 shares of our common stock during 2023.

On July 13, 2023, we closed an underwritten public offering of 23,000,000 shares of our common stock, which included 3,000,000 shares issued pursuant to the exercise of the option granted to the underwriters, at a public offering price of $7.50 per share, before underwriting discounts and commissions. The total estimated net proceeds to us from the offering, including the exercise of the option by the underwriters, were $161.5 million after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

On February 22, 2024, we closed an underwritten public offering of 23,014,000 shares of our common stock at a public offering price of $9.15 per share, before underwriting discounts and commissions. The total estimated net proceeds to us from the offering are expected to be approximately $197.1 million after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

During the year ended December 31, 2024, we received $200.0 million in net proceeds, after offering costs, through the sale of 23,127,726 shares of common stock through the 2023 Sale Agreement.

In the future, we may periodically offer one or more of these securities in amounts, prices, and terms to be announced when and if the securities are offered. If any of the securities covered by the 2020 Shelf Registration Statement are offered for sale, a prospectus supplement will be prepared and filed with the SEC containing specific information about the terms of such offering at that time.

Cash Flows

Cash flows from operating, investing and financing activities (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Net cash (used in) provided by:			
Operating activities	$ (352,977)	$ (361,820)	$ (292,757)
Investing activities	(96,411)	(155,242)	256,455
Financing activities	390,664	462,959	190,150
Net (decrease) increase in cash, cash equivalents and restricted cash*	$ (58,724)	$ (54,103)	$ 153,848

** Excludes effect of exchange rate changes*

Operating Activities

Net cash used in operating activities represents cash disbursements related to all of our activities other than investing and financing activities. Operating cash flow is derived by adjusting our net loss for non-cash items and changes in operating assets and liabilities. Net cash used in operating activities for the year ended December 31, 2024, was $353.0 million compared to $361.8 million for the same period in 2023. The $8.8 million decrease in cash used in operating activities was driven by a $71.9 million decrease in net loss as we collect generated revenues from commercialization of Amtagvi® and distribution of Proleukin®. In addition, it reflects a net increase in non-cash charges of $53.0 million, primarily driven by higher stock-based compensation expense and amortization of intangible assets, the latter of which is driven primarily by the amortization associated with the developed technology intangible asset recorded as part of the Acquisition and intellectual property license intangible assets associated with Amtagvi®, and an impairment charge of the long-lived assets that resulted from an early termination of our corporate headquarters lease. The increase in non-cash charges was partially offset by a decrease in accretion of discounts on investments, amortization of right of assets, gain on derecognition of lease assets and liabilities as a result of the early termination of our corporate headquarters lease, and deferred tax benefits resulting from the realization of the related deferred taxes for operations in the UK. Further, net cash used in operating activities related to changes in operating assets and liabilities increased by $124.0 million, driven primarily by an increase in trade accounts receivable, resulting from the sale of our products and a decrease in accounts payable and accrued expenses, resulting from cash utilized for payments associated with the continued growth in the business, including our increased workforce, timing of vendor invoicing and related payments, and cash used for purchases of raw material inventory in support of the commercial launch of Amtagvi®. These increases in the use of cash were partially offset by a $7.9 million decrease in cash used for prepaid expenses, other assets, and long-term assets in the current period compared to the corresponding period in 2023, which resulted from the timing of payments made, as well as the receipt of cash for other miscellaneous receivables.

Net cash used in operating activities for the year ended December 31, 2023, was $361.8 million compared to $292.8 million for the same period in 2022. The increase of $69.1 million in cash used in operating activities was primarily due to a $48.1 million increase in net loss related to increased costs in research and development, including the overall expansion of our clinical trials for new TIL cell therapies as well as our pre-commercialization activities for lifileucel, and the overall growth in our workforce and corporate infrastructure. In addition, it reflects a decrease in non-cash charges of $17.3 million primarily driven by lower stock-based compensation expenses and accretion of discount on investments, partially offset by increases in amortization of intangible assets driven primarily by the amortization associated with the developed technology intangible asset acquired as part of the Acquisition and in depreciation expense resulting primarily from additional fixed assets put in service at the *i*CTC. Further, net cash used by changes in operating assets and liabilities increased by $27.1 million, driven primarily by cash used for the purchase of Proleukin® inventory as part of the Acquisition and an increase in lease payments for our lease arrangements, resulting primarily from the full utilization of tenant improvement allowances offered under our lease agreements during 2022. These increases in the use of cash were partially offset by a net $23.4 million decrease in cash used, driven by an increase in accounts payable and accrued expenses, which primarily resulted from the timing of vendor invoicing and related payments.

Net cash used in operating activities for the year ended December 31, 2022, was $292.8 million compared to $227.9 million for the same period in 2021. The increase of $64.8 million in cash used in operating activities was primarily due to an increase in net loss driven by increased costs in research and development and pre-commercial activities, which was partially offset by an increase in non-cash charges of $16.3 million primarily driven by higher stock-based compensation expenses, operating right-of-use assets associated with our office and manufacturing facility as well as embedded leases, and depreciation expenses, partially offset by accretion of discount on investments. In addition, it reflects a $31.4 million increase in cash used by assets and liabilities driven primarily by changes in

accruals and accounts payable as well as prepaid assets, resulting from the increased workforce, overall growth in the business and operations, and the timing of vendor invoicing and related payments. These increases were offset by a net increase in our operating lease liabilities primarily driven by receipts of tenant improvement allowances for our new corporate headquarters office.

Investing Activities

Net cash (used in) / provided by investing activities primarily relates to the cash utilized to fund the Acquisition and the purchases and maturities of our investments and capital expenditures. Net cash used in investing activities for the year ended December 31, 2024, was $96.4 million compared to net cash provided by investing activities of $155.2 million for the same period in 2023. The decrease in cash used of $58.8 million was driven by a $112.5 million increase associated with changes in the timing of maturities and purchases of investments, which was partially offset by a $160.1 million decrease in cash used for the Acquisition in May 2023 and a $11.2 million decrease in capital expenditures.

Net cash used in investing activities for the year ended December 31, 2023 was $155.2 million, compared to net cash provided by investing activities of $256.5 million for the same period in 2022. The increase in cash used of $411.7 million was driven by the $212.6 million payment for the acquisition of the Proleukin® business, excluding the payment of acquired inventories, which is presented in operating activities, and a $1.9 million increase in capital expenditures, offset by a $197.2 million net increase in the timing of maturities and purchases of investments.

Net cash (used in) / provided by investing activities primarily consists of purchases, maturities of our investments and capital expenditures. Net cash provided by investing activities for the year ended December 31, 2022 was $256.5 million compared to net cash provided by investing activities of $0.1 million for the same period in 2021. The increase in cash provided by investing activities of $256.4 million was primarily due to the timing of maturities and purchases of investments and lower capital expenditures in 2022.

Financing Activities

Net cash provided by financing activities for the year ended December 31, 2024 was $390.7 million compared to net cash provided of $463.0 million for the same period in 2023. The decrease in net cash provided by financing activities of $72.3 million was primarily driven by a decrease in net proceeds of $66.0 million received from our public offering in February 2024 and through the sales of common stock through our “at the market” offering program during the year ended December 31, 2024, as compared to the net proceeds received through the “at the market” offering program in the first quarter of 2023, and a $10.1 million increase in tax payments related to shares withheld for vested restricted stock units, or RSUs. These decreases were partially offset by $3.7 million increase in proceeds from the issuance of common stock upon the exercise of stock options and from our employee stock purchase plan program.

Net cash provided by financing activities for the year ended December 31, 2023 was $463.0 million compared to net cash provided of $190.2 million for the same period in 2022. The increase in net cash provided by financing activities of $272.8 million was driven by a $273.8 million increase in net proceeds received from sales of common stock pursuant to the June 2023 underwritten public offering and our “at the market” offering program as well as $0.8 million received from the issuance of common stock under the 2020 Employee Stock Purchase Plan, or the 2020 ESPP. These increases were partially offset by a $1.6 million decrease in proceeds from the issuance of common stock upon the exercise of stock options.

Net cash provided by financing activities for the year ended December 31, 2022 was $190.2 million compared to net cash provided of $239.3 million for the same period in 2021. The net cash provided by financing activities during the year ended December 31, 2022 related to $189.5 million net cash proceeds from our “at the market” offering program, $1.7 million of cash receipts from the issuance of common stock under the 2020 ESPP, and $1.6 million of cash receipts from the issuance of common stock upon the exercise of stock options. This was offset by cash used of $2.6 million for tax payments related to vested RSUs.

Contractual Obligations

The following table summarizes our non-cancellable contractual obligations as of December 31, 2024 and the effects that such obligations are expected to have on our liquidity and cash flows in future periods (in thousands):

	Payments due by period						
	Total	2025	2026	2027	2028	2029	Thereafter
Operating lease obligations - facilities[1]	$ 82,168	$ 6,039	$ 5,452	$ 4,307	$ 4,393	$ 4,481	$ 57,496
Purchase obligations[2]	27,199	13,599	7,159	6,440	—	—	—
Total[3]	$ 109,367	$ 19,638	$ 12,611	$ 10,747	$ 4,393	$ 4,481	$ 57,496

(1) Our operating lease obligations consist of obligations under non-cancellable operating leases for our facilities in Philadelphia, Pennsylvania, and Tampa, Florida, and our non-cancellable operating sublease in San Carlos, California.
Excluded from the above are contractual obligations with a CMO for the manufacturing facilities and minimum fixed commitment fees included in our manufacturing contracts, such as personnel, general support fee, and minimum production or material fees. These obligations met the conditions of embedded leases under Accounting Standard Codification (ASC) Topic 842 and were included in the Operating lease liabilities in the consolidated balance sheets. However, these contracts are cancellable upon prior notice and as a result, are not included in the above table.

(2) We have purchase obligations of $27.2 million related to manufacturing and supply agreements for Proleukin® under a contract we inherited as part of the Acquisition.

(3) We acquire assets still in development and enter into research and development arrangements with third parties that often require milestone and royalty payments to the third-party contingent upon the occurrence of certain future events linked to the success of the asset in development. Milestone payments may be required, contingent upon the successful achievement of an important point in the development life cycle of the pharmaceutical product (*e.g.*, approval of the product for marketing by a regulatory agency). If required by the arrangement, we may have to make royalty payments based upon a percentage of the sales of the pharmaceutical product in the event that regulatory approval for marketing is obtained. Because of the contingent nature of these milestone payments, they are not included in the table of contractual obligations.
These arrangements may be material individually, and in the event that milestones for multiple products covered by these arrangements are reached in the same period, the aggregate charge to expense could be material to the results of operations in any one period. In addition, these arrangements often give us the discretion to unilaterally terminate development of the product, which would allow us to avoid making contingent payments.

Off-Balance Sheet Arrangements

As of December 31, 2024, we had no obligations that would require disclosure as off-balance sheet arrangements.

Critical Accounting Policies and Significant Judgements and Estimates

Our accounting policies are more fully described in Note 2 of the consolidated financial statements included in this Annual Report on Form 10-K. As described in Note 2, the preparation of our consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of our financial statements as well as the reported revenues and expenses during the reported periods. We base our estimates on historical experience and on various market-specific and other relevant assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Estimates are assessed each period and updated to reflect current information. Actual results may differ from these estimates under different assumptions or conditions.

We believe the following critical accounting policies reflect the more significant judgments and estimates used in the preparation of our consolidated financial statements:

Asset Acquisitions

We make certain judgments to determine whether transactions should be accounted for as acquisitions of assets or business combinations using the guidance in Accounting Standard Codification, or ASC, Topic 805, Business Combinations by first applying a screen test to assess if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of assets. If the screen test is met, the transaction is accounted for as an asset acquisition. If the screen test is not met, further assessment

is required to determine whether we have acquired inputs and processes that have the ability to create outputs, which would meet the requirements of a business.

If the assets acquired do not constitute a business, we account for asset acquisitions using the cost accumulation and allocation method. Under this method, the cost of the acquisition, including direct acquisition-related costs, is allocated to the assets acquired on a relative fair value basis. Goodwill is not recognized in an asset acquisition and any difference between consideration transferred and the fair value of the net assets acquired is allocated to the identifiable assets acquired based on their relative fair values.

Deferred tax liabilities arising from basis differences in assets acquired are calculated using the simultaneous equations method under ASC 740, *Income Taxes* and based on the effective tax rate. The resulting deferred tax liability is recorded against the carrying amount of the acquired intangible assets on a relative fair value basis.

Contingent consideration in the scope of ASC Topic 815, Derivatives and Hedging, is included in the cost of the asset acquisition at its acquisition date fair value. Contingent consideration in the scope of ASC Topic 450, Contingencies, is recognized when it is both probable and reasonably estimable.

Intangible Assets

Our intangible assets are initially measured based on an allocation of the cost of the acquisition to the assets acquired on a relative fair value basis and are recorded net of accumulated amortization. We amortize the intangible assets on a straight-line basis over their estimated useful lives.

When contingent consideration is a component of the cost of an asset acquisition, we capitalize the amount of incremental cost from the contingent consideration related to the intangible asset acquired in the period the underlying contingency is resolved. When this occurs, we will recognize a cumulative catch-up to reflect amortization on the intangible assets that would have been recognized had the incremental cost from the contingent consideration been recorded as of the acquisition date.

We review intangible assets for impairment at least annually and whenever events or changes in circumstances have occurred which could indicate that the carrying value of the assets are not recoverable. If such indicators are present, we assess the recoverability of affected assets by determining if the carrying value of the assets is less than the sum of the undiscounted future cash flows of the assets. If the assets are found to not be recoverable, we measure the amount of impairment by comparing the carrying value of the assets to their fair values. We determined that no indicators of impairment existed as of December 31, 2024 or December 31, 2023.

Inventory and Cost of Sales

Inventory is stated at the lower of cost or net realizable value on a first-in, first-out basis. Our assessment of net realizable value requires the use of estimates regarding the net realizable value of our inventory balances, including an assessment of excess or obsolete inventory. We determine excess or obsolete inventory based on multiple factors, including an estimate of recent sales forecast compared to quantities on hand and the expiration date of the product and materials.

Revenue Recognition

We recognize revenue from product sales in accordance with Topic ASC 606, Revenue from Contracts with Customers, or ASC 606. Under ASC 606, revenue is recognized when a customer obtains control of promised goods or services in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To the extent the transaction price includes variable consideration, we estimate the amount of variable consideration that should be included in the transaction price using the most likely method based on historical experience, as well as applicable information currently available.

In the U.S., products are sold principally to hospitals and clinics, as well as distributors and wholesalers, and outside of the U.S. to hospitals and clinics. Contractual performance obligations are usually limited to transfer of control of the product to the customer. In the case of Amtagvi®, revenue is recognized upon infusion while for Proleukin®, transfer of control occurs either upon shipment or upon receipt of product after considering when the customer obtains legal title to the product. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring our products and is generally based on a list of fixed prices less allowances for chargebacks, product returns, rebates and discounts. Our payment terms to customers range from 45 to 105 days; payment terms differ by customer and by product.

Revenue is reduced at the time of recognition for expected chargebacks, product returns, discounts, rebates, and sales allowances, collectively referred to as gross to net adjustments, or GTN adjustments. In the U.S., these GTN adjustments are attributable to various commercial arrangements and government programs. In addition, non-U.S. government programs include different pricing schemes such as cost caps and volume discounts. Cash discounts are recorded as a reduction to receivables and settled through the issuance of credits, typically within one month. All other GTN adjustments are recorded as a liability and settled through cash payments to the customer.

Significant judgement is required in estimating GTN adjustments considering legal interpretations of applicable laws and regulations, historical experience, payer channel mix, current contract prices under applicable programs, processing time lags, and inventory levels in the distribution channel.

Indirect taxes collected from customers and remitted to government authorities that are related to sales of our products, primarily in Europe, are excluded from revenues.

Accrued Research and Development Costs

Research and development costs are expensed as incurred. Clinical development costs compose a significant component of research and development costs. We have a history of contracting with third parties, including CROs, independent clinical investigators, and CMOs, that perform various clinical trial activities on our behalf in connection with the ongoing development of our product candidates. The financial terms of these contracts are subject to negotiations and may vary from contract to contract and may result in uneven payment flow. We accrue and expense costs for clinical trial activities performed by third parties based upon the work completed to date for each clinical trial in accordance with agreements established with CROs, hospitals, and clinical investigators. Accruals for CROs and CMOs are recorded based on services received and efforts expended pursuant to agreements established with CROs, CMOs, and other outside service providers. We determine our costs through discussions with internal clinical stakeholders and outside service providers as to the progress or stage of completion of clinical trials or services and the contracted fee to be paid for such services.

Included in our clinical development costs are investigator costs, which are costs associated with treatments administered at clinical sites as required under each clinical trial protocol. Our estimates for clinical investigator costs and timing of expense recognition will depend on a number of factors that include, but are not limited to, (i) the overall number of patients that enroll in the trial at each individual site, (ii) the length of clinical trial enrollment period, (iii) discontinuation and completion rates of patients, (iv) duration of patient safety follow-ups, (v) the number of sites included in the clinical trial, and (vi) the contracted fee of each participating site for patient treatment while on clinical trial, which can vary greatly for several reasons including, but not limited to, geographic region, medical center or physician costs, and overhead costs. In addition, our estimates for per patient trial costs will vary based on a number of factors that include, but are not limited to, the extent of additional treatments that may be administered by investigators as a result of patient health status, recoverability of patient costs through insurance carriers of patients, and unanticipated cost of injuries incurred as a result of the clinical trial treatment. We accrue estimated expenses resulting from obligations under investigator site agreements as the timing of payments does not always timely align with the periods over which the treatments are administered by the clinical investigators. These estimates are typically based on contracted amounts, patient visit data, discussions with internal clinical stakeholders and outside service providers, and historical look-back analysis of actual payments made to date.

We make judgements and estimates in determining the accrual balance in each reporting period. In the event advance payments are made to a CRO, CMO, or other outside service provider, the payments are recorded within prepaid expenses and other current assets and subsequently recognized as research and development expense when the associated services have been performed. As actual costs become known, we adjust our estimates, liabilities, and assets. Inputs used in our determination of estimates discussed above may vary from actual, which will result in adjustments to research and development expense in future periods.

Recent Accounting Standards

In November 2023, the FASB issued ASU 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures, which enhances the disclosures required for operating segments in annual and interim consolidated financial statements. ASC 2023-07 was effective for us in our annual reporting for fiscal year 2024 and for interim period reporting beginning in fiscal year 2025 on a retrospective basis, which we adopted as of December 31, 2024. See Note 11 to the consolidated financial statements included in the Annual Report on Form 10-K.

In December 2023, the FASB issued ASU 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures, which enhances the disclosures of income taxes. ASU 2023-09 is effective for us in our annual reporting for fiscal year 2025 on a prospective basis. Early adoption and retrospective reporting are permitted. We are currently evaluating the impact of ASU 2023-09 on our consolidated financial statements.

In November 2024, the FASB issued ASU 2024-03, Income Statement-Reporting Comprehensive Income-Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses, which requires the disaggregation of certain expense captions into specified categories in disclosures within the notes to the financial statements to provide enhanced transparency into the expense captions presented on the face of the income statement. ASU 2024-03 is effective for annual reporting periods beginning after December 15, 2026 and interim periods beginning after December 15, 2027, with early adoption permitted, and may be applied either prospectively or retrospectively to financial statements issued for reporting periods after the effective date of ASU 2024-03 or retrospectively to any or all prior periods presented in the financial statements. We are currently evaluating the impact of ASU 2024-03 on our consolidated financial statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

Our exposure to market risk is limited primarily to interest income sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because a significant portion of our investments are in interest bearing cash accounts consisting of short-term debt securities issued by the U.S. government. The primary objective of our investment activities is to preserve principal. We adhere to an investment policy that requires us to limit amounts invested in securities based on credit rating, maturity, industry group and investment type and issuer, except for securities issued by the U.S. government. We do not have any derivative financial instruments or foreign currency instruments. As of December 31, 2024, we had $269.5 million invested in marketable securities with a maturity date of less than one year. As such we believe that we are not exposed to any material market risk. If interest rates had varied by 1% in the year ended December 31, 2024, the fair value of our investment portfolio would increase or decrease by approximately $0.5 million.

Inflation Risk

Inflation has not had a material effect on our business, financial condition or results of operations during the years ended December 31, 2024, 2023, or 2022.

Foreign currency exchange risk

In addition to our existing foreign operations, we acquired and established newly formed foreign subsidiaries to consummate our acquisition of worldwide rights in Proleukin® in the second quarter of 2023. As a result, our financial results could be significantly affected by factors such as changes in foreign currency exchange rates or weak economic conditions in the foreign markets in which we distribute Proleukin®. Our operating results could be exposed to changes in foreign currency exchange rates between U.S. dollar and various foreign currencies, the most significant of which is the pound sterling. When the U.S. dollar strengthens against these currencies, the relative value of sales made in the respective foreign currency decreases. Conversely, when the U.S. dollar weakens against these currencies, the relative value of such sales increase.

The majority of our product sales during the year ended December 31, 2024 were denominated in the U.S. dollar. However, we do have some sales denominated in foreign currencies during the year ended December 31, 2024 and all our sales during the year ended December 31, 2023 were denominated in foreign currencies. Nevertheless, foreign currency transaction gains and losses were immaterial for the years ended December 31, 2024 and 2023.

Item 8. Financial Statements and Supplementary Data

Financial Statements are referred to in Item 15, listed in the Index to Financial Statements as a part of this Annual Report on Form 10-K, and are incorporated herein by this reference.

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

None.

Item 9A. Controls and Procedures

(a) Evaluation of Disclosure Controls and Procedures:

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and in reaching a reasonable level of assurance, management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

As of the end of the period covered by this Annual Report on Form 10-K, we carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures. Based on the foregoing, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level.

(b) 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 Rules 13a-15(f) and 15d-15(f). Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2024, based on the framework in *Internal Control—Integrated Framework 2013* issued by the Committee of Sponsoring Organizations of the Treadway Commission, or COSO. Based on that evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2024.

The independent registered public accounting firm, Ernst and Young LLP, has issued an audit report on our internal control over financial reporting. The report on the audit of internal control over financial reporting is included in this Annual Report on Form 10-K.

(c) Changes in Internal Control Over Financial Reporting:

There has been no change in our internal control over financial reporting during our most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

During the fourth quarter of 2024, none of our directors or executive officers adopted or terminated a Rule 10b5-1 trading arrangement (as defined in Item 408(a)(1)(i) of Regulation S-K) or adopted or terminated a non-Rule 10b5-1 trading arrangement (as defined in Item 408(c) of Regulation S-K) for the purchase or sale of securities of the Company, whether or not intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) of the Exchange Act.

During the fourth quarter of 2024, the Company did not adopt or terminate a Rule 10b5-1 trading arrangement (as defined in Item 408(a)(1)(i) of Regulation S-K) for the purchase or sale of securities of the Company, whether or not intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) of the Exchange Act.

PART III

Certain information required by Part III is omitted from this Annual Report on Form 10-K because we will file a definitive Proxy Statement for the Annual Meeting of Stockholders pursuant to Regulation 14A of the Securities Exchange Act of 1934 (the Proxy Statement), not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, and the applicable information included in the Proxy Statement is incorporated herein by reference.

Item 10. Directors, Executive Officers, and Corporate Governance

Information required by this Item 10 will be presented in the Proxy Statement "Election of Directors," "Management Executive Officers," "Section 16(a) Beneficial Ownership Reporting Compliance" and "Board of Directors and Corporate Governance," and is incorporated herein by reference.

Item 11. Executive Compensation

The information required by this Item 11 is incorporated herein by reference to the sections entitled "Executive Compensation," "Executive Compensation—Compensation Discussion and Analysis" and "Directors' Compensation" in the Proxy Statement.

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

The information required by this Item 12 is incorporated herein by reference to the sections entitled "Security Ownership of Certain Beneficial Owners and Management" and "Equity Compensation Plan Information" in the Proxy Statement.

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

The information required by this Item 13 is incorporated herein by reference to the section entitled "Certain Relationships and Related Transactions" in the Proxy Statement.

Item 14. Principal Accountant's Fees and Services

Information required by this Item 14 is incorporated herein by reference to the section of the Proxy Statement entitled "Principal Accountant Fees and Services."

PART IV

Item 15. Exhibits, Financial Statements Schedules

The Company's consolidated financial statements and related notes thereto are listed and included in this Annual Report on Form 10-K beginning on page F-1. The following exhibits are filed with, or are incorporated by reference into, this Annual Report on Form 10-K.

EXHIBIT INDEX

Exhibit	Description
2.1	Plan of Conversion (incorporated herein by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed with the Commission on June 2, 2017).
3.1	Articles of Conversion (incorporated herein by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the Commission on June 2, 2017).
3.2	Certificate of Conversion (incorporated herein by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed with the Commission on June 2, 2017).
3.3	Certificate of Incorporation (incorporated herein by reference to Exhibit 3.3 to the Registrant's Current Report on Form 8-K filed with the Commission on June 2, 2017).
3.4	Certificate of Designations of Rights, Preferences and Privileges of Series A Convertible Preferred Stock (incorporated herein by reference to Exhibit 3.4 to the Registrant's Post-Effective Amendment No. 1 to the Registration Statement on Form S-3 (file no. 333-214073) filed with the Commission on July 31, 2017).
3.5	Certificate of Designations of Rights, Preferences and Privileges of Series B Preferred Stock (incorporated herein by reference to Exhibit 3.5 to the Registrant's Post-Effective Amendment No. 1 to the Registration Statement on Form S-3 (file no. 333-214073 incorporated by reference into file no. 333-212373) filed with the Commission on July 31, 2017).
3.6	Certificate of Amendment of Certificate of Incorporation (incorporated herein by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the Commission on June 27, 2017).
3.7	Certificate of Amendment of Certificate of Incorporation (incorporated herein by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8 K filed with the Commission on June 11, 2019).

3.8	Third Amended and Restated Bylaws (incorporated herein by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the Commission on April 29, 2022).
4.1	Specimen of Stock Certificate (incorporated herein by reference to Exhibit 4.2 to the Registrant's Annual Report on Form 10-K filed with the Commission on March 12, 2018).
4.2	Description of Securities (incorporated herein by reference to Exhibit 4.3 to the Registrant's Annual Report on Form 10-K filed with the Commission on March 6, 2019).
10.1	Genesis Biopharma, Inc. 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8 K filed with the Commission on October 20, 2011).#
10.2	Form of Incentive Stock Option Agreement under the Genesis Biopharma Inc. 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.4 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 25, 2020).#
10.3	Form of Non-Qualified Stock Option Agreement under the Genesis Biopharma Inc. 2011 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.5 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 25, 2020).#
10.4	Lion Biotechnologies, Inc. 2014 Equity Incentive Plan, as amended (incorporated herein by reference to Appendix A to the Registrant's Definitive Proxy Statement on Schedule 14A filed with the Commission on July 7, 2016).#
10.5	Form of Incentive Stock Option Agreement under the Lion Biotechnologies, Inc. 2014 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.7 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 25, 2020).#
10.6	Form of Non-Qualified Stock Option Agreement under the Lion Biotechnologies, Inc. 2014 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.8 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 25, 2020).#
10.7	Iovance Biotherapeutics, Inc. 2018 Equity Incentive Plan, as amended (incorporated herein by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on November 7, 2023).#
10.8	Form of Incentive Stock Option Agreement under the Iovance Biotherapeutics, Inc. 2018 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.10 of Registrant's Annual Report on Form 10-K filed with the Commission on February 25, 2020).#
10.9	Form of Non-Qualified Stock Option Agreement under the Iovance Biotherapeutics, Inc. 2018 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.11 of Registrant's Annual report on Form 10-K filed with the Commission on February 25, 2020).#
10.10	Form of Stock Unit Notice and Stock Unit Agreement under the Iovance Biotherapeutics, Inc. 2018 Equity Incentive Plan, as amended (June 2021 Retention Equity Awards) (incorporated herein by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on August 5, 2021).#
10.11	Form of Nonqualified Stock Option Award Agreement under the Iovance Biotherapeutics, Inc. 2018 Equity Incentive Plan, as amended (June 2021 Retention Equity Awards) (incorporated herein by reference to Exhibit 10.3 to the Registrant's Current Report on Form 10-Q filed with the Commission on August 5, 2021).#
10.12	Iovance Biotherapeutics, Inc. 2020 Employee Stock Purchase Plan (incorporated herein by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on November 7, 2023).#
10.13	Iovance Biotherapeutics, Inc. Amended and Restated 2021 Inducement Plan (incorporated herein by reference to Exhibit 10.13 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 24, 2022).#
10.14	Form of Stock Option Grant Notice and Stock Option Agreement under the 2021 Inducement Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed with the Commission on September 23, 2021).#
10.15	Form of Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement under the 2021 Inducement Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K filed with the Commission on September 23, 2021).#
10.16	Form of Deferred Stock Unit Notice and Deferred Stock Unit Agreement under the Iovance Biotherapeutics, Inc. 2018 Equity Incentive Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on August 4, 2022).#
10.17	Patent License Agreement by and between Genesis Biopharma, Inc. and the National Institutes of Health effective October 5, 2011 (incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K/A filed with the Commission on December 13, 2011).*
10.18	Cooperative Research and Development Agreement for Intramural-PHS Clinical Research, dated August 5, 2011, by and between the U.S. Department of Health and Human Services, as represented by the National Cancer Institute, and Genesis

	Biopharma, Inc. (incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K/A (Amendment No. 2) filed with the Commission on November 29, 2011).
10.19	Form of Director Stock Award Agreement (incorporated herein by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed with the Commission on July 25, 2013).#
10.20	Form of Registration Rights Agreement by and among Lion Biotechnologies, Inc. and the Investors thereunder (incorporated herein by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed with the Commission on October 31, 2013).
10.21	Cooperative Research and Development Agreement for the Development and Evaluation of the NCI Proprietary Adoptive Cell Transfer Immunotherapy Using Tumor Infiltrating Lymphocytes in Patients with Metastatic Melanoma, Bladder, Lung, Triple-negative Breast, and HPV-associated Cancers, Utilizing Lion Biotechnologies, Inc.'s Business Development Expertise in Adoptive Cell Transfer Immunotherapy, executed by Lion Biotechnologies, Inc. on January 22, 2015 (incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the Commission on January 27, 2015).*
10.22	Patent License Agreement, dated February 9, 2015, by and between Lion Biotechnologies, Inc. and the National Institutes of Health (incorporated herein by reference to Exhibit 10.47 to the Registrant's Annual Report on Form 10 K filed with the Commission on March 16, 2015).*
10.23	Patent License Agreement, dated February 10, 2015, by and between Lion Biotechnologies, Inc. and the National Institutes of Health (incorporated herein by reference to Exhibit 10.46 to the Registrant's Annual Report on Form 10-K filed with the Commission on March 16, 2015).*
10.24	First Amendment to Patent License Agreement, effective October 2, 2015, by and between Lion Biotechnologies, Inc. and the National Institutes of Health (incorporated herein by reference to Exhibit 10.47 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on November 6, 2015).*
10.25	Amended and Restated Patent License Agreement, by and between Iovance Biotherapeutics, Inc. and the National Institutes of Health (incorporated herein by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10 Q filed with the Commission on August 5, 2021).*
10.26	Form of Securities Purchase Agreement, dated June 2, 2016, by and among Lion Biotechnologies, Inc. and the Investors thereunder (incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the Commission on June 3, 2016).
10.27	Form of Registration Rights Agreement, dated June 2, 2016, by and among Lion Biotechnologies, Inc. and the Investors thereunder (incorporated herein by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed with the Commission on June 3, 2016).
10.28	Amendment #1 to the Cooperative Research and Development Agreement #02734, dated January 22, 2015, by and between the National Cancer Institute and Lion Biotechnologies, Inc. (incorporated herein by reference to Exhibit 10.1 to the Registrant's Current report on Form 8-K filed with the Commission on January 27, 2015).
10.29	Amendment #2 to the Cooperative Research and Development Agreement #02734, dated August 18, 2016, by and between the National Cancer Institute and Lion Biotechnologies, Inc. (incorporated herein by reference to Exhibit 10.3 to Amendment No. 2 to Registrant's Registration Statement on Form S-1 filed with the Commission on August 31, 2016).
10.30	Amendment #3 to the Cooperative Research and Development Agreement #02734, dated September 7, 2021, by and between the National Cancer Institute and Iovance Biotechnologies, Inc.**+
10.31	Amendment #4 to the Cooperative Research and Development Agreement #02734, dated August 26, 2024, by and between the National Cancer Institute and Iovance Biotherapeutics, Inc.**+
10.32	Manufacturing Services Agreement, dated November 23, 2015, by and between WuXi Advanced Therapies, Inc. and Lion Biotechnologies, Inc. (incorporated herein by reference to Exhibit 10.36 to the Registrant's Annual Report on Form 10-K filed with the Commission on March 9, 2017).*
10.33	Strategic Alliance Agreement, effective as of April 17, 2017, between Lion Biotechnologies, Inc. and The University of Texas M.D. Anderson Cancer Center (incorporated herein by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10 Q filed with the Commission on August 3, 2017).*
10.34	First Amendment to the Strategic Alliance Agreement by and between Iovance Biotherapeutics, Inc. and The University of Texas M.D. Anderson Cancer Center, effective as of August 2, 2017 (incorporated herein by reference to Exhibit 10.34 to the Registrant's Annual Report on Form 10-K filed with the Commission on March 12, 2018).
10.35	Second Amendment to the Strategic Alliance Agreement by and between Iovance Biotherapeutics, Inc. and The University of Texas M.D. Anderson Cancer Center, effective February 16, 2018 (incorporated herein by reference to Exhibit 10.35 to the Registrant's Annual Report on Form 10-K filed with the Commission on March 12, 2018).

10.36	Executive Employment Agreement, effective as of June 1, 2016, by and between Maria Fardis and Lion Biotechnologies, Inc. (incorporated herein by reference to Exhibit 10.3 of the Registrant's Quarterly Report on Form 10 Q filed with the Commission on August 9, 2016).*#
10.37	Severance Agreement and General Release, effective as of July 8, 2020, between Iovance Biotherapeutics, Inc. and Timothy Morris (incorporated herein by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q filed with the Commission on August 6, 2020).*#
10.38	Executive Employment Agreement, effective as of September 30, 2016, by and between Frederick G. Vogt and Lion Biotechnologies, Inc. (incorporated herein by reference to Exhibit 10.32 to the Registrant's Annual Report on Form 10 K filed with the Commission on March 12, 2018).#
10.39	Executive Employment Agreement effective as of July 18, 2019, by and between Friedrich-Reinhard Graf Finck von Finckenstein, M.D. and Iovance Biotherapeutics, Inc. (incorporated herein by reference to Exhibit 10.1 of the Registrant's Quarterly Report on Form 10-Q filed with the Commission on August 1, 2019).
10.40	Executive Employment Agreement, effective as of December 14, 2020, by and between Jean-Marc Bellemin and Iovance Biotherapeutics, Inc. (incorporated herein by reference to Exhibit 10.30 of the Registrant's Annual Report on Form 10-K filed with the Commission on February 25, 2021).#+
10.41	Executive Employment Agreement, effective as of March 15, 2021, by and between Igor Bilinsky, Ph.D. and Iovance Biotherapeutics, Inc. (incorporated herein by reference to Exhibit 10.4 of the Registrant's Current Report on Form 10-K filed with the Commission on May 6, 2021).#+
10.42	Executive Employment Agreement, effective as of January 10, 2022, by and between Raj K. Puri, M.D., Ph.D. and Iovance Biotherapeutics, Inc.**+
10.43	Executive Employment Agreement, effective as of January 25, 2025, by and between Daniel Gordon Kirby and Iovance Biotherapeutics, Inc.**+
10.44	Office Lease, effective as of August 4, 2016, by and between Lion Biotechnologies, Inc. and Hudson Skyway Landing, LLC (incorporated herein by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8 K filed with the Commission on August 8, 2016).
10.45	Office Lease, effective as of October 19, 2018, by and between Iovance Biotechnologies, Inc. and Hudson Skyway Landing, LLC (incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8 K filed with the Commission on October 25, 2018).
10.46	First Amendment to the Office Lease, effective as of June 19, 2019, between Iovance Biotherapeutics, Inc. and Hudson Skyway Landing, LLC (incorporated herein by reference to Exhibit 10.1 of the Registrant's Quarterly Report on Form 10-Q filed with the Commission on November 4, 2019).
10.47	Second Amendment to the Office Lease, effective as of February 8, 2021, by and between Iovance Biotherapeutics, Inc. and Hudson Skyway Landing, LLC (incorporated herein by reference to Exhibit 10.2 of the Registrant's Current Report on Form 8-K filed with the Commission on February 9, 2021).
10.48	First Amendment to the Office Lease, effective as of February 8, 2021, by and between Iovance Biotherapeutics, Inc. and Hudson Skyway Landing, LLC (incorporated herein by reference to Exhibit 10.3 of the Registrant's Current Report on Form 8-K filed with the Commission on February 9, 2021).
10.49	Lease Agreement, effective as of May 28, 2019, by and between Iovance Biotherapeutics, Inc. and 300 Rouse Boulevard, LLC (incorporated herein by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed with the Commission on June 3, 2019).
10.50	First Amendment to the Lease Agreement, effective as of August 20, 2019, between Iovance Biotherapeutics, Inc. and 300 Rouse Boulevard, LLC (incorporated herein by reference to Exhibit 10.2 of the Registrant's Quarterly Report on Form 10-Q filed with the Commission on November 4, 2019).
10.51	Second Amendment to the Lease Agreement, effective as of June 30, 2020, between Iovance Biotherapeutics, Inc. and 300 Rouse Boulevard, LLC (incorporated herein by reference to Exhibit 10.3 of the Registrant's Quarterly Report on Form 10-Q filed with the Commission on August 6, 2020).
10.52	Third Amendment to the Lease Agreement, effective as of November 1, 2021, between Iovance Biotherapeutics, Inc. and 300 Rouse Boulevard, LLC (incorporated herein by reference to Exhibit 10.46 to the Registrant's Annual Report on Form 10-K filed with the Commission on February 24, 2022).
10.53	Lease Agreement, effective as of February 8, 2021, by and between Iovance Biotherapeutics, Inc. and ARE-San Francisco No. 63, LLC (incorporated herein by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed with the Commission on February 9, 2021).
10.54	Sublease, effective as of November 15, 2024, by and between Iovance Biotherapeutics, Inc. and Vaxcyte, Inc.**+
10.55	Termination Agreement, effective as of November 15, 2024, by and between Iovance Biotherapeutics, Inc. and ARE – San Francisco No. 63, LLC.**

10.56	Option Agreement, dated January 23, 2023, by and among Iovance Biotherapeutics, Inc., Iovance Biotherapeutics UK Ltd, Clinigen Holdings Limited, Clinigen Healthcare Limited, and Clinigen, Inc. (incorporated herein by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K/A filed with the Commission on January 27, 2023).
19.1	Iovance Biotherapeutics, Inc. Insider Trading Policy.**
21.1	Subsidiaries of the Company.**
23.1	Consent of Independent Registered Public Accounting Firm.**
24.1	Power of Attorney (included on the signature page of this Annual Report).
31.1	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer.**
31.2	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer.**
32.1	Section 1350 Certification of Chief Executive Officer (furnished herewith).**
32.2	Section 1350 Certification of Chief Financial Officer (furnished herewith).**
97.1	Iovance Biotherapeutics, Inc. Dodd-Frank Clawback Policy.**
101	The following financial information from the Annual Report on Form 10-K of Iovance Biotherapeutics, Inc. for the year ended December 31, 2024, formatted inline XBRL (eXtensible Business Reporting Language): (1) Balance Sheets as of December 31, 2024 and 2023 (2) Statements of Operations for the years ended December 31, 2024, 2023, and 2022; (3) Statements of Stockholders' Equity for the years ended December 31, 2024, 2023, and 2022; (4) Statements of Cash Flows for the years ended December 31, 2024, 2023, and 2022; and (5) Notes to Financial Statements.
104	Cover Page Interactive Data File – the cover page interactive date file does not appear in the Interactive Date File because its XBRL tags are embedded within the Inline XBRL document.

* Certain portions of the Exhibit have been omitted based upon a request for confidential treatment filed by us with the Commission. The omitted portions of the Exhibit have been separately filed by us with the Commission.

** Filed herewith.

# Indicates a management contract or compensatory plan or arrangement.

\+ Certain portions of the Exhibit have been redacted pursuant to Item 601(b)(10)(iv) of Regulation S-K.

Item 16. Form 10-K Summary

We may voluntarily include a summary of information required by Form 10-K under this Item 16. We have elected not to include such summary information.

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.

IOVANCE BIOTHERAPEUTICS, INC.

Date: February 27, 2025

By: /s/ Frederick G. Vogt
Name: Frederick G. Vogt, Ph.D., J.D.
Title: Interim Chief Executive Officer and President, and General Counsel

POWER OF ATTORNEY

Know all persons by these presents, that each person whose signature appears below constitutes and appoints Frederick G. Vogt, and Jean-Marc Bellemin, and each of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place, and stead, in any and all capacities, to sign any and all amendments to this Annual Report, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming that all said attorneys-in-fact and agents, or any of them or their or his or her substitute or substituted, may lawfully do or cause to be done by virtue thereof.

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

Signature	Title	Date
/s/ Frederick G. Vogt Frederick G. Vogt, Ph.D., J.D.	Interim Chief Executive Officer and President, and General Counsel (Principal Executive Officer) and Director	February 27, 2025
/s/ Jean-Marc Bellemin Jean-Marc Bellemin	Chief Financial Officer and Treasurer (Principal Financial Officer and Accounting Officer)	February 27, 2025
/s/ Michael Weiser Michael Weiser, M.D., Ph.D.	Director	February 27, 2025
/s/ Ryan D. Maynard Ryan D. Maynard	Director	February 27, 2025
/s/ Iain Dukes Iain Dukes, D.Phil.	Director	February 27, 2025
/s/ Wayne Rothbaum Wayne Rothbaum	Director	February 27, 2025
/s/ Athena Countouriotis Athena Countouriotis, M.D.	Director	February 27, 2025
/s/ Wendy L. Yarno Wendy L. Yarno	Director	February 27, 2025

IOVANCE BIOTHERAPEUTICS, INC.
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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Iovance Biotherapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Iovance Biotherapeutics, Inc. (the Company) as of December 31, 2024 and 2023, the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2024, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2024, 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, 2024, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated February 27, 2025 expressed an unqualified opinion thereon.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of 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.

Revenue recognition

Description of the Matter	For the year ended December 31, 2024, the Company recognized product revenue of $164 million related to the sales of Amtagvi® and Proleukin®. As described in Note 2 to the Financial Statements, the Company recognizes revenue when a customer obtains control of promised goods. In the case of Amtagvi®, revenue is recognized upon infusion while for Proleukin®, transfer of control occurs either upon shipment or upon receipt of the product after considering when the customer obtains legal title to the product. The principal consideration for our determination that performing procedures relating to product revenue is a critical audit matter is a high degree of auditor effort in performing procedures related to revenue recognition cut-off given the magnitude of revenue transactions near the end of the fiscal year.
How We Addressed the Matter in Our Audit	We evaluated the design and tested the operating effectiveness of the Company's internal control related to the Company's revenue recognition processes. To test the cut off of revenue recognition, our audit procedures included, among others, (i) testing the completeness, accuracy and occurrence of revenue recognized for a sample of revenue transactions that took place near the end of fiscal year by obtaining and inspecting source documents, such as sales contracts, purchase orders, customer invoices, proof of delivery, and infusion confirmations and (ii) confirming a sample of outstanding customer invoice balances as of December 31, 2024 and, for confirmations not returned, obtaining and inspecting source documents, such as invoices, proof of delivery, and subsequent cash receipts.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2021.
San Mateo, California
February 27, 2025

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Iovance Biotherapeutics, Inc.

Opinion on Internal Control Over Financial Reporting

We have audited Iovance Biotherapeutics, Inc.'s internal control over financial reporting as of December 31, 2024, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Iovance Biotherapeutics, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2024, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2024 and 2023, the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2024, and the related notes and our report dated February 27, 2025 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ Ernst & Young LLP

San Mateo, California
February 27, 2025

IOVANCE BIOTHERAPEUTICS, INC.
Consolidated Balance Sheets
(In thousands, except share and per share information)

	December 31, 2024	December 31, 2023
ASSETS		
Current Assets		
Cash and cash equivalents	$ 115,694	$ 114,888
Trade accounts receivable	69,340	151
Short-term investments	208,087	164,979
Inventory	51,520	10,372
Prepaid expenses and other assets	12,377	17,458
Total Current Assets	457,018	307,848
Property and equipment, net	109,081	114,030
Intangible assets, net	282,398	229,258
Operating lease right-of-use assets	55,201	62,515
Restricted cash	6,359	66,430
Long-term assets	369	270
Total Assets	$ 910,426	$ 780,351
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities		
Accounts payable	$ 27,509	$ 33,123
Accrued expenses and other liabilities	81,936	69,406
Operating lease liabilities	12,896	7,777
Total Current Liabilities	122,341	110,306
Non-Current Liabilities		
Operating lease liabilities – non-current	44,365	67,085
Deferred tax liabilities	32,315	17,347
Long-term note payable	1,000	1,000
Total Non-Current Liabilities	77,680	85,432
Total Liabilities	200,021	195,738
Commitments and contingencies		
Stockholders' Equity		
Series A Convertible Preferred stock, $0.001 par value; 17,000 shares designated, 194 shares issued and outstanding as of December 31, 2024 and December 31, 2023	—	—
Series B Convertible Preferred stock, $0.001 par value; 11,500,000 shares designated, 2,842,158 shares issued and outstanding as of December 31, 2024 and December 31, 2023	3	3
Common stock, $0.000041666 par value; 500,000,000 shares authorized, 305,252,194 and 256,135,715 shares issued and outstanding as of December 31, 2024 and December 31, 2023, respectively	13	11
Accumulated other comprehensive loss (income)	(1,046)	2,526
Additional paid-in capital	3,095,987	2,594,448
Accumulated deficit	(2,384,552)	(2,012,375)
Total Stockholders' Equity	710,405	584,613
Total Liabilities and Stockholders' Equity	$ 910,426	$ 780,351

The accompanying notes are an integral part of these consolidated financial statements.

IOVANCE BIOTHERAPEUTICS, INC.
Consolidated Statements of Operations
(In thousands, except per share information)

	Years Ended December 31,		
	2024	2023	2022
Revenue			
Product revenue	$ 164,070	$ 1,189	$ —
Total revenue	164,070	1,189	—
Costs and expenses			
Cost of sales	123,995	10,755	—
Research and development	282,336	344,077	294,781
Selling, general, and administrative	153,017	106,916	104,097
Total costs and expenses	559,348	461,748	398,878
Loss from operations	(395,278)	(460,559)	(398,878)
Other income			
Interest and other income, net	20,273	13,043	2,985
Net Loss before income taxes	(375,005)	(447,516)	(395,893)
Income tax benefit	2,828	3,479	—
Net Loss	$ (372,177)	$ (444,037)	$ (395,893)
Net Loss Per Share of Common Stock, Basic and Diluted	$ (1.28)	$ (1.89)	$ (2.49)
Weighted Average Shares of Common Stock Outstanding, Basic and Diluted	289,877	235,131	159,259

The accompanying notes are an integral part of these consolidated financial statements.

IOVANCE BIOTHERAPEUTICS, INC.
Consolidated Statements of Comprehensive Loss
(in thousands)

	Years Ended December 31,		
	2024	2023	2022
Net Loss	$ (372,177)	$ (444,037)	$ (395,893)
Other comprehensive loss:			
Unrealized gain on investments	78	940	(301)
Foreign currency translation adjustment	(3,650)	2,488	—
Comprehensive Loss	$ (375,749)	$ (440,609)	$ (396,194)

The accompanying notes are an integral part of these consolidated financial statements.

IOVANCE BIOTHERAPEUTICS, INC.
Consolidated Statements of Stockholders' Equity
(In thousands, except share information)

	Series A Convertible Preferred Sock		Series B Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated other Comprehensive Income	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount	Shares	Amount				
Balance - December 31, 2021	194	$ —	2,842,158	$ 3	157,004,742	$ 7	$1,794,695	$ (601)	$ (1,172,445)	$ 621,659
Stock-based compensation expense	—	—	—	—	—	—	84,022	—	—	84,022
Vesting of restricted shares issued for services	—	—	—	—	894,760	—	—	—	—	—
Tax payments related to shares retired for vested restricted stock units	—	—	—	—	(342,703)	—	(2,649)	—	—	(2,649)
Common stock issued upon purchase of employee stock purchase plan	—	—	—	—	262,701	—	1,655	—	—	1,655
Common stock issued upon exercise of stock options	—	—	—	—	203,579	—	1,642	—	—	1,642
Common stock sold in public offering, net of offering costs	—	—	—	—	29,788,993	1	189,501	—	—	189,502
Unrealized gain on investments	—	—	—	—	—	—	—	(301)	—	(301)
Net loss	—	—	—	—	—	—	—	—	(395,893)	(395,893)
Balance - December 31, 2022	194	$ —	2,842,158	$ 3	187,812,072	$ 8	$2,068,867	$ (902)	$ (1,568,338)	$ 499,638
Stock-based compensation expense	—	—	—	—	—	—	62,625	—	—	62,625
Vesting of restricted shares issued for services	—	—	—	—	1,253,465	—	—	—	—	—
Tax payments related to shares retired for vested restricted stock units	—	—	—	—	(454,367)	—	(2,795)	—	—	(2,795)
Common stock issued upon purchase of employee stock purchase plan	—	—	—	—	435,459	—	2,410	—	—	2,410
Common stock issued upon exercise of stock options	—	—	—	—	8,860	—	63	—	—	63
Common stock sold in public and/or at the market offerings, net of offering costs	—	—	—	—	67,080,226	3	463,278	—	—	463,281
Unrealized gain on investments	—	—	—	—	—	—	—	940	—	940
Foreign currency cumulative translation adjustment	—	—	—	—	—	—	—	2,488	—	2,488
Net loss	—	—	—	—	—	—	—	—	(444,037)	(444,037)
Balance - December 31, 2023	194	$ —	2,842,158	$ 3	256,135,715	$ 11	$2,594,448	$ 2,526	$ (2,012,375)	$ 584,613
Stock-based compensation expense	—	—	—	—	—	—	110,877	—	—	110,877
Vesting of restricted shares issued for services	—	—	—	—	3,150,172	—	—	—	—	—
Tax payments related to shares retired for vested restricted stock units	—	—	—	—	(1,098,388)	—	(12,858)	—	—	(12,858)
Common stock issued upon purchase of employee stock purchase plan	—	—	—	—	497,044	—	2,952	—	—	2,952
Common stock issued upon exercise of stock options	—	—	—	—	425,925	—	3,266	—	—	3,266
Common stock sold in public and/or at the market offering, net of offering costs	—	—	—	—	46,141,726	2	397,302	—	—	397,304
Unrealized gain on investments	—	—	—	—	—	—	—	78	—	78
Foreign currency cumulative adjustments	—	—	—	—	—	—	—	(3,650)	—	(3,650)
Net loss	—	—	—	—	—	—	—	—	(372,177)	(372,177)
Balance - December 31, 2024	194	$ —	2,842,158	$ 3	305,252,194	$ 13	$3,095,987	$ (1,046)	$ (2,384,552)	$ 710,405

The accompanying notes are an integral part of these consolidated financial statements.

IOVANCE BIOTHERAPEUTICS, INC.
Consolidated Statements of Cash Flows
(In thousands)

	Years Ended December 31,		
	2024	**2023**	**2022**
Cash Flows from Operating Activities			
Net loss	$ (372,177)	$ (444,037)	$ (395,893)
Adjustments to reconcile net loss to net cash used in operating activities:			
Stock-based compensation expense	109,627	62,625	84,022
Unrealized foreign exchange gains	(175)	70	—
Amortization of intangible assets	21,202	9,849	—
Amortization of right of use asset	10,437	11,710	11,825
Depreciation and amortization of property and equipment	11,967	11,568	9,310
Deferred tax benefit	(2,828)	(3,479)	—
Accretion of discounts and premiums on investments	(10,261)	(3,605)	474
Impairment of long-lived assets	7,355	—	397
Gain on derecognition of lease assets and liabilities	(5,568)	—	—
Changes in assets and liabilities:			
Prepaid expenses, other assets and long-term assets	(2,113)	(10,062)	(2,130)
Trade accounts receivable	(69,189)	(149)	—
Inventory	(39,917)	(10,118)	—
Operating lease liabilities	(12,074)	(10,794)	(1,942)
Accounts payable	(7,841)	4,828	5,883
Accrued expenses and other liabilities	8,578	19,774	(4,703)
Net cash used in operating activities	(352,977)	(361,820)	(292,757)
Cash Flows from Investing Activities			
Maturities of investments	428,000	285,583	522,696
Purchase of investments	(460,769)	(205,902)	(245,816)
Cash paid for acquisition, including contingent consideration, net of cash acquired	(52,573)	(212,633)	—
Purchase of property and equipment	(11,069)	(22,290)	(20,425)
Net cash used in investing activities	(96,411)	(155,242)	256,455
Cash Flows from Financing Activities			
Tax payments related to shares withheld for vested restricted stock units	(12,858)	(2,795)	(2,649)
Proceeds from the issuance of common stock under employee stock purchase plan	2,952	2,410	1,655
Proceeds from the issuance of common stock upon exercise of options	3,266	63	1,642
Vesting of restricted shares issued for services	—		
Proceeds from the issuance of common stock, net	397,304	463,281	189,502
Net cash provided by financing activities	390,664	462,959	190,150
Effect of foreign exchange rate changes	(541)	(2,740)	
Net increase in cash, cash equivalents and restricted cash	(59,265)	(56,843)	153,848
Cash, Cash Equivalents and Restricted Cash Beginning of Period	181,318	238,161	84,313
Cash, Cash Equivalents and Restricted Cash End of Period	$ 122,053	$ 181,318	$ 238,161
Supplemental disclosure of non-cash investing and financing activities:			
Fair value of net assets acquired	$ —	$ 222,637	—
Net unrealized gain on investments	78	940	(301)
Acquisition of property and equipment included in accounts payable and accrued expenses	7,365	4,062	5,985
Intangible asset and deferred tax liability arising from contingent consideration	17,495	—	—
Lease liabilities arising from obtaining right-of-use asset from new leases	2,306	177	553
Lease liabilities arising from obtaining right-of-use asset from lease modifications	(7,833)	1,033	15,304

The accompanying notes are an integral part of these consolidated financial statements.

IOVANCE BIOTHERAPEUTICS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1. GENERAL ORGANIZATION, BUSINESS AND LIQUIDITY

General Organization and Business

Iovance Biotherapeutics, Inc. (the "Company") is a commercial-stage biopharmaceutical company pioneering a transformational approach to treating cancer by harnessing the human immune system's ability to recognize and destroy diverse cancer cells using therapies personalized for each patient. The Company's mission is to be the global leader in innovating, developing, and delivering tumor infiltrating lymphocyte ("TIL") cell therapies for patients with solid tumor cancers. The Company is executing the U.S. launch of Amtagvi® (lifileucel), the first product within its autologous TIL cell therapy platform, while also marketing Proleukin® (aldesleukin), an interleukin-2 ("IL-2") product used in the Amtagvi® treatment regimen and in other applications. Amtagvi® is the first and the only one-time, individualized T cell therapy to receive U.S. Food and Drug Administration ("FDA") approval for a solid tumor cancer. Amtagvi® is a tumor-derived autologous T cell immunotherapy indicated for the treatment of adult patients with unresectable or metastatic melanoma previously treated with a PD-1 blocking antibody, and if BRAF V600 mutation positive, a BRAF inhibitor with or without a MEK inhibitor. This indication was approved under accelerated approval based on overall response rate ("ORR"). Continued approval for this indication may be contingent upon verification and description of clinical benefit in future confirmatory trials. Amtagvi® and Proleukin® are part of a treatment regimen that includes lymphodepletion.

Beyond the U.S., the Company plans to launch Amtagvi® into additional markets with a high prevalence of advanced melanoma, including the European Union, United Kingdom, Canada, Switzerland, and Australia. In June 2024, the Company submitted a centralized marketing authorization application ("MAA") to the European Medicines Agency ("EMA") for lifileucel. In August 2024, the MAA was validated and accepted for review by the EMA. In October 2024, an MAA was submitted to the Medicines and Healthcare products Regulatory Agency in the United Kingdom. A new drug submission ("NDS") was deemed eligible for Notice of Compliance with Conditions ("NOC/c") by Health Canada and submitted in December 2024 and then accepted in January 2025. The NOC/c policy includes a prioritized 200-day review process for potential NDS approval in mid-2025. If approved, lifileucel is expected to be the first and only approved therapy in this treatment setting in these markets. Across the U.S. and other targeted global markets, Amtagvi® has the potential to address more than 20,000 previously treated advanced melanoma patients annually.

The Company was founded to build upon the promise of TIL cell therapy that was previously demonstrated in single-center clinical trials at academic research centers, including the National Cancer Institute ("NCI"). The Company's multi-center trials, novel TIL products, manufacturing processes, facilities, and bioanalytical platforms have transformed TIL cell therapy into a commercially viable treatment which thousands of patients with cancer can access.

The Company manufactures Amtagvi® and its investigational TIL cell therapies using centralized, scalable, and proprietary manufacturing processes which rejuvenate and multiply polyclonal T cells unique to each patient into the billions and yields a cryopreserved, individualized therapy. Amtagvi® is manufactured for commercial use at the Company's manufacturing facility, the Iovance Cell Therapy Center (the "*i*CTC"), and by a contract manufacturing organization ("CMO").

The Company's development pipeline includes multicenter trials of TIL cell therapies in additional treatment settings and indications for solid tumor cancers. To potentially improve outcomes for patients, the Company is investigating TIL monotherapies for patients previously treated with standard of care therapies and TIL cell therapy in combination with standard of care therapies for patients in earlier treatment settings. The Company is conducting two ongoing registrational trials to support a supplementary BLA ("sBLA"), of lifileucel in frontline advanced melanoma and in advanced non-small cell lung cancer ("NSCLC") following standard of care chemo-immunotherapy. The Company is also developing next generation therapies, such as genetically modified TIL cell therapy and next generation cytokines for use in the TIL cell therapy regimen.

Liquidity

As of December 31, 2024, the Company had $330.1 million in cash, cash equivalents, short term-investments, and restricted cash ($115.7 million of cash and cash equivalents, $208.1 million in short-term investments, and $6.4 million in restricted cash). The Company has recently launched its first internally developed commercial product and continues to be engaged in the development of therapeutics to fight cancer, specifically solid tumors. With the recent approval of the BLA, the Company began to generate revenue from the sale of its product Amtagvi® in the second quarter of 2024. Furthermore, following the acquisition of the worldwide rights to Proleukin® (as discussed below in Note 4 - Proleukin® Acquisition) in the second quarter of 2023, the Company began to generate revenue from the sales of Proleukin®. However, such revenues for Amtagvi® and Proleukin® may not be material enough to generate

positive operational cash flows during the 12 months from the date the consolidated financial statements are issued and this Form 10-K is filed. The Company has incurred a net loss of $372.2 million for the year ended December 31, 2024 and used $353.0 million of cash in its operating activities during the year ended December 31, 2024.

The Company expects to continue to incur significant expenses to support its execution of the commercial launch of Amtagvi®, fund ongoing clinical programs, including its NSCLC registrational study, IOV-LUN-202, and its frontline advanced melanoma Phase 3 confirmatory trial, TILVANCE-301, continue the development of its pipeline candidates, and for other general corporate purposes. Based on the funds the Company has available as of the date these consolidated financial statements for December 31, 2024 are issued, which includes net proceeds of approximately $122.3 million raised through the open market sales agreement through February 14, 2025, the Company believes that it has sufficient capital to fund its anticipated operating expenses and capital expenditures as planned for at least the next twelve months from the date these consolidated financial statements are issued.

Concentrations of Risk

The Company is subject to credit risk from its portfolio of cash, cash equivalents, trade accounts receivable and investments. Under its investment policy, the Company limits amounts invested in securities by credit rating, maturity, industry group, investment type and issuer, except for securities issued by the U.S. government. The Company does not believe it is exposed to any significant concentrations of credit risk from these financial instruments. The goals of its investment policy are safety and preservation of principal, diversification of risk, and liquidity of investments sufficient to meet cash flow requirements.

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING PRACTICES

Cash, Cash Equivalents, and Investments

The Company’s cash and cash equivalents include short-term investments with original maturities of three months or less when purchased. The Company's investments are classified as “available-for-sale.” The Company includes these investments in current assets or non-current assets in the Consolidated Balance Sheets based on the length of maturity from the reporting date and carries them at fair value. Unrealized gains and losses on available-for-sale securities are recorded in accumulated other comprehensive loss. Impairment losses related to credit losses (if any) are recorded as an allowance for credit losses with an offsetting entry to Interest income, net. No impairment losses related to credit losses were recognized for the years ended December 31, 2024, 2023 and 2022. The cost of debt securities is adjusted for the amortization of premiums and accretion of discounts to maturity. Such amortization and accretion are included in Interest income, net in the consolidated statements of operations. Gains and losses on securities sold are recorded based on the specific identification method and are included in Interest income, net in the consolidated statements of operations. The Company has not incurred any realized gains or losses from sales of securities to date. The Company’s investment policy limits investments to certain types of instruments such as certificates of deposit, money market instruments, obligations issued by the U.S. government and U.S. government agencies as well as corporate debt securities and commercial paper, and places restrictions on maturities and concentration by type and issuer, except for securities issued by the U.S. government.

Restricted Cash

As of December 31, 2024 and December 31, 2023, restricted cash totaled $6.4 million and $66.4 million, respectively. These amounts have been classified as either current or non-current assets in the Company’s consolidated balance sheet based on the maturity date of the underlying letter of credit agreement.

The Company maintains a required minimum balance in segregated bank accounts in connection with its letters of credit for which amounts are restricted as to their use by the Company. As of December 31, 2024, the Company’s letters of credit were primarily comprised of a letter of credit for the benefit of the *i*CTC used as a security deposit for the lease in the amount of $5.45 million and a letter of credit for $0.6 million for the benefit of the landlord for the Company’s headquarters lease (See Note 15 - Leases). The letter of credit for $5.45 million originally expired on May 28, 2020, however, it automatically extends for additional one-year periods, without written agreement, to May 28 in each succeeding calendar year, through at least 60 days after the lease expiration date. Further, on the expiration of the seventh year of the lease, and each anniversary date thereafter, the letter of credit may be decreased by $1.0 million, with a minimum security deposit of $1.5 million maintained through the end of the lease term. The letter of credit with the landlord for the Company’s headquarters lease expires on February 1, 2032, however, it will be automatically extended, without written agreement, for one-year periods to February in each succeeding calendar year.

IOVANCE BIOTHERAPEUTICS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

A letter of credit in the amount of $60.0 million for the regulatory approval milestone payment as required by the terms of the Option Agreement for the Proleukin® acquisition (See Note 4 – Proleukin® Acquisition) was cancelled in March 2024 following the milestone payment of $52.6 million (£41.7 million) during the first quarter of 2024.

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

	December 31,		
	2024	2023	2022
Cash and cash equivalents	$ 115,694	$ 114,888	$ 231,731
Restricted cash	6,359	66,430	6,430
Total cash, cash equivalents and restricted cash	$ 122,053	$ 181,318	$ 238,161

Asset Acquisitions

The Company evaluates acquisitions of assets using the guidance in Accounting Standard Codification ("ASC") Topic 805, Business Combinations ("ASC 805"), to determine whether the transaction should be accounted for as a business combination or asset acquisition by first applying a screen test to assess if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of assets. If the screen test is met, the transaction is accounted for as an asset acquisition. If the screen test is not met, further assessment is required to determine whether the Company has acquired inputs and processes that have the ability to create outputs, which would meet the requirements of a business.

If the assets acquired do not constitute a business, the Company accounts for asset acquisitions using the cost accumulation and allocation method. Under this method, the cost of the acquisition, including direct acquisition-related costs, is allocated to the assets acquired on a relative fair value basis. Goodwill is not recognized in an asset acquisition and any difference between consideration transferred and the fair value of the net assets acquired is allocated to the identifiable assets acquired based on their relative fair values.

Deferred tax liabilities arising from basis differences in assets acquired are calculated using the simultaneous equations method under ASC Topic 740, Income Taxes ("ASC 740"), and based on the effective tax rate. The resulting deferred tax liability is recorded in the consolidated balance sheet as of December 31, 2024.

Contingent consideration in the scope of ASC Topic 815, Derivatives and Hedging ("ASC 815"), is included in the cost of the asset acquisition at its acquisition date fair value. Contingent consideration in the scope of ASC Topic 450, Contingencies ("ASC 450"), is recognized when it is both probable and reasonably estimable.

Inventory and Cost of Sales

Inventory is stated at the lower of cost or net realizable value on a first-in, first-out basis. Cost includes amounts related to materials, internal labor, costs of external manufacturing, and allocable depreciation of manufacturing facilities, equipment and overhead. Net realizable value is the estimated selling price in the ordinary course of business less reasonably predictable costs of completion, disposal and transportation. Inventoriable costs incurred, such as manufacturing costs incurred prior to regulatory approval that did not qualify for capitalization and clinical manufacturing costs, are expensed as incurred as research and development expenses.

Upon the February 2024 approval of Amtagvi®, the Company began capitalizing inventory and manufacturing costs for the commercial manufacturing of Amtagvi®. Additionally, inventory that initially qualifies for capitalization but that may ultimately be used for the production of clinical drug product or utilized in research and development programs is expensed as research and development expense when it has been designated for the manufacture of clinical drug product or use in research and development activities.

Proleukin® inventories presented in the consolidated balance sheet as of December 31, 2024 and 2023 include a step-up of the fair value of inventories as a result of the acquisition of the worldwide rights to Proleukin®.

The Company periodically reviews inventory for excess and obsolescence, considering factors such as its most recent sales forecast compared to quantities on hand and the expiration date of the product and materials. The Company adjusts its inventory that is obsolete or otherwise unmarketable to its estimated net realizable value in the period in which the impairment is first identified. Any such adjustments are included as a component of cost of sales within the Company's consolidated statements of operations.

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Cost of sales includes inventory and period costs related to overhead and manufacturing costs of Amtagvi® during the period from approval through December 31, 2024, as well as the cost of inventories and other costs that are directly associated with the purchase and sales of Proleukin®. In addition, cost of sales in the Company's consolidated statements of operations includes royalties payable on sales of its products, as well as non-cash expenses including amortization of the fair value step-up of acquired Proleukin® inventory which is recognized as the acquired inventory units are sold, the acquired intangible asset related to developed technology, and the intellectual property license intangible assets.

During the Company's commercial manufacturing process, certain Amtagvi® product may become out-of-specification, meaning they fall outside commercial specifications. This out-of-specification product can still be utilized by patients in a clinical trial, an expanded or early access program, or single-patient investigational new drug, at which point the costs associated with these batches are classified as research and development expense based on the fact that the Company receives clinical data related to these infusions.

Trade Accounts Receivable

Trade accounts receivable are recorded net of allowances for product returns and estimated credit losses. The estimate of allowance for credit losses considers factors, including existing contractual payment and the aging of receivable from its customers. To date, the Company has determined that an allowance for credit losses is not required.

Intangible Assets

The Company's intangible assets are initially measured based on an allocation of the cost of the acquisition to the assets acquired on a relative fair value basis and are recorded net of accumulated amortization. The Company amortizes the intangible assets on a straight-line basis over their estimated useful lives.

When contingent consideration is a component of the cost of an asset acquisition, the Company capitalizes the amount of incremental cost from the contingent consideration related to the intangible asset acquired in the period the underlying contingency is resolved. When this occurs, the Company will recognize amortization expense on the incremental cost prospectively from the date the incremental costs are capitalized.

The Company reviews intangible assets for impairment at least annually and whenever events or changes in circumstances have occurred which could indicate that the carrying value of the assets are not recoverable. If such indicators are present, the Company assesses the recoverability of affected assets by determining if the carrying value of the assets is less than the sum of the undiscounted future cash flows of the assets. If the assets are found to not be recoverable, the Company measures the amount of impairment by comparing the carrying value of the assets to their fair values. The Company determined that no indicators of impairment existed as of December 31, 2024.

Leases

The Company determines if an arrangement includes a lease at inception and thereafter, if modified. Operating leases are included in its consolidated balance sheets as Operating lease right-of-use assets and Operating lease liabilities as of December 31, 2024 and 2023. Operating lease right-of-use assets represent the Company's right to use an underlying asset for the lease term and operating lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease right-of-use assets and liabilities are recognized at the lease commencement date or modification date based on the present value of lease payments over the lease term. In determining the net present value of lease payments, the Company uses an estimated incremental borrowing rate that is applicable to the Company based on the information available at the later of the lease commencement or modification date.

The operating lease right-of-use assets also include any lease payments made less lease incentives. The Company's leases may include options to extend or terminate the lease, which is considered in the lease term when it is reasonably certain that the Company will exercise any such options. Lease expense is recognized on a straight-line basis over the expected lease term and recorded in costs and expenses in the consolidated statements of operations. The Company has elected not to apply the recognition requirements of Accounting Standards Update ("ASU") No. 2016-02 and No. 2018-10 (together "Topic 842") for short-term leases.

For lease agreements entered into by the Company that include lease and non-lease components, such components are generally accounted for separately.

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Property and Equipment, net

Property and equipment are stated at cost, net of accumulated depreciation and amortization. The cost of property and equipment is depreciated or amortized on the straight-line method over the following estimated useful lives. The depreciation or amortization of capitalized construction in progress costs, a component of property and equipment, net, begins once the underlying asset is placed into service and is recognized over the estimated useful lives:

Computer equipment	2 years
Computer software	5 years
Office furniture and equipment	5 years
Lab, process, and validation equipment	5 years
Machinery and equipment	5 – 7 years
Utility equipment	Lesser of the remaining economic life of the asset or the lease-term
Leasehold improvements	Lesser of the remaining economic life of the asset or the lease-term

Expenditures for maintenance and repairs are charged to operations as incurred while renewals and betterments are capitalized. Gains and losses on disposals are included within operating expenses in the consolidated statements of operations.

Management assesses the carrying value of property and equipment whenever events or changes in circumstances indicate that the carrying value may not be recoverable. If there is an indication of impairment, management prepares an estimate of future undiscounted cash flows expected to result from the use of the asset and its eventual disposition. If these cash flows are less than the carrying amount of the asset, an impairment loss is recognized to write down the asset to its estimated fair value. For the years ended December 31, 2024, 2023, and 2022, the Company did not recognize any impairments for its property and equipment.

Fair Value Measurements

Under ASC Topic 820, Fair Value Measurements and Disclosures ("ASC 820"), fair value is defined as the price at which an asset could be exchanged, or a liability transferred in a transaction between knowledgeable, willing parties in the principal or most advantageous market for the asset or liability. Where available, fair value is based on observable market prices or parameters or derived from such prices or parameters. Where observable prices or parameters are not available, valuation models are applied.

Assets and liabilities recorded at fair value in the Company's financial statements are categorized based upon the level of judgment associated with the inputs used to measure their fair value. Hierarchical levels directly related to the amount of subjectivity associated with the inputs to fair valuation of these assets and liabilities, are as follows:

- Level 1—These are investments where values are based on unadjusted quoted prices for identical assets in an active market that the Company has the ability to access.

- Level 2—These are investments where values are based on quoted market prices in markets that are not active or model derived valuations in which all significant inputs are observable in active markets.

- Level 3—These are financial instruments where values are derived from techniques in which one or more significant inputs are unobservable.

The Company's financial instruments consist of cash, cash equivalents, short-term investments, and long-term notes payable, all of which are reported at their respective fair value or approximate fair value on its consolidated balance sheets.

A financial instrument's categorization within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement. Where quoted prices are available in an active market, securities are classified as Level 1.

When quoted market prices are not available for a specific security, the Company estimates the fair value by using quoted prices for identical or similar instruments in markets that are not active and model-based valuation techniques for which all significant inputs are observable in the market or can be corroborated by observable market data for substantially the full term of the assets. Where applicable, these models project future cash flows and discount the future amounts to a present value using market-based observable

inputs obtained from various third-party data providers, including but not limited to, benchmark yields, interest rate curves, reported trades, broker/dealer quotes, and market reference data.

Revenue Recognition

The Company recognizes revenue from product sales in accordance with ASC Topic 606, *Revenue from Contracts with Customers* ("ASC 606"). Under ASC 606, revenue is recognized when a customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. 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 using the most likely method based on historical experience, as well as applicable information currently available.

In the U.S., products are sold principally to hospitals and clinics, as well as distributors and wholesalers, and outside of the U.S. to hospitals and clinics. Contractual performance obligations are usually limited to transfer of control of the product to the customer. In the case of Amtagvi®, revenue is recognized upon infusion while for Proleukin®, transfer of control occurs either upon shipment or upon receipt of the product after considering when the customer obtains legal title to the product. Revenue is measured as the amount of consideration the Company expects to receive in exchange for transferring its products and is generally based on a list of fixed prices less allowances for chargebacks, product returns, rebates and discounts. The Company's payment terms to customers range from 45 to 105 days; payment terms differ by customer and by product.

Revenue is reduced at the time of recognition for expected chargebacks, product returns, discounts, rebates, and sales allowances, collectively referred to as gross to net adjustments ("GTN adjustments"). In the U.S., these GTN adjustments are attributable to various commercial arrangements and government programs. In addition, non-U.S. government programs include different pricing schemes such as cost caps and volume discounts. Cash discounts are recorded as a reduction to receivables and settled through the issuance of credits, typically within one month. All other GTN adjustments are recorded as a liability and settled through cash payments to the customer.

Significant judgment is required in estimating GTN adjustments considering legal interpretations of applicable laws and regulations, historical experience, payer channel mix, current contract prices under applicable programs, processing time lags and inventory levels in the distribution channel.

Indirect taxes collected from customers and remitted to government authorities that are related to sales of the Company's products, primarily in Europe, are excluded from revenues.

Stock-Based Compensation

The Company periodically grants stock options to employees and non-employees as compensation for services rendered. The Company accounts for all stock-based payment awards made to employees, including the employee stock purchase plans, and non-employees in accordance with the authoritative guidance provided by the Financial Accounting Standards Board ("FASB") where the value of the award is measured on the date of grant and recognized over the vesting period. Forfeitures are recognized in the period in which they occur. The Company accounts for stock option grants to non-employees in a similar manner as stock option grants to employees except for the term used in the grant date fair value, therefore no longer requiring a re-measurement at the then-current fair values at each reporting date until the shares underlying the options have vested. The non-employee awards that contain a performance condition that affects the quantity or other terms of the award are measured based on the outcome that is probable.

The fair value of the Company's common stock option grants is estimated using a Black-Scholes option pricing model, which uses certain assumptions related to risk-free interest rates, expected volatility, expected term of the common stock options, and future dividends. The stock-based compensation expense is recorded based upon the value derived from the Black-Scholes option pricing model. The assumptions used in the Black-Scholes option pricing model could affect compensation expense recorded in future periods.

The Company issues restricted stock units ("RSUs") from time to time as part of its equity incentive plans. The Company measures the compensation cost with respect to RSUs issued to employees based upon the estimated fair value of the equity instruments at the date of the grant, which is recognized as an expense over the period during which an employee is required to provide services in exchange for the awards. The fair value of RSUs is based on the closing price of the Company's common stock on the grant date. In addition to RSUs that have time-based vesting requirements, from time to time the Company may issue RSUs that include certain performance vesting criteria based upon the satisfaction of stated objectives ("PRSUs"). The Company measures the compensation cost

with respect to PRSUs issued to employees based upon the estimated fair value of the equity instruments at the date of grant, which is recognized as an expense over the period that achievement is determined to be probable through the stated service period associated with the award.

Accrued Research and Development Costs

Research and development costs are expensed as incurred. Clinical development costs compose a significant component of research and development costs. The Company has a history of contracting with third parties, including contract research organizations ("CROs"), independent clinical investigators, and contract manufacturing organizations ("CMOs") that perform various clinical trial activities on the Company's behalf in connection with the ongoing development of the Company's product candidates. The financial terms of these contracts are subject to negotiations and may vary from contract to contract and may result in uneven payment flow. The Company accrues and expenses costs for clinical trial activities performed by third parties based upon the work completed to date for each clinical trial in accordance with agreements established with CROs, hospitals, and clinical investigators. Accruals for CROs and CMOs are recorded based on services received and efforts expended pursuant to agreements established with CROs, CMOs and other outside service providers. The Company determines its costs through discussions with internal clinical stakeholders and outside service providers as to the progress or stage of completion of clinical trials or services and the contracted fee to be paid for such services.

Included in the Company's clinical development costs are investigator costs, which are costs associated with treatments administered at clinical sites as required under each clinical trial protocol. The Company's determination of clinical investigator costs and related timing of expense recognition will depend on a number of factors that include, but are not limited to, (i) the overall number of patients that enroll in the trial at each individual site, (ii) the length of clinical trial enrollment period, (iii) discontinuation and completion rates of patients, (iv) duration of patient safety follow-ups, (v) the number of sites included in the clinical trial, and (vi) the contracted fee of each participating site for patient treatment while on clinical trial, which can vary greatly for several reasons including, but not limited to, geographic region, medical center or physician costs, and overhead costs. In addition, the Company's estimates for per patient trial costs will vary based on a number of factors that include, but are not limited to, the extent of additional procedures that may be administered by investigators as a result of patient health status, recoverability of patient costs through insurance carriers of patients, and unanticipated cost of injuries incurred as a result of the clinical trial treatment. The Company accrues estimated expenses resulting from obligations under investigator site agreements as the timing of payments does not always timely align with the periods over which the treatments are administered by the clinical investigators. These estimates are typically based on contracted amounts, patient visit data, discussions with internal clinical stakeholders and outside service providers, and historical look-back analysis of actual payments made to date.

The Company makes judgements and estimates in determining the accrual balance in each reporting period.

In the event advance payments are made to a CRO, CMO or other outside service provider, the payments are recorded within prepaid expenses and other current assets in the Consolidated Balance Sheets and subsequently recognized as research and development expense in the consolidated statements of operations when the associated services have been performed. As actual costs become known, the Company adjusts its estimates, liabilities and assets. Inputs used in the determination of estimates discussed above may vary from actual, which will result in adjustments to research and development expense in future periods.

Selling, general, and administrative expense

Selling, general, and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for personnel in executive, finance, procurement, legal, investor relations, facilities, business development, marketing, commercial, information technology and human resources functions. Other significant costs include facility costs not otherwise included in research and development expenses. Selling, general, and administrative costs are expensed as incurred, and the Company accrues for services provided by third parties related to such expenses by monitoring the status of services provided and receiving estimates from its service providers and adjusting its accruals as actual costs become known.

Income Taxes

The Company accounts for income taxes using the asset and liability method whereby deferred tax assets and liabilities are recognized for the differences between the carrying amounts of existing assets and liabilities for financial reporting purposes and their respective tax bases. In addition, deferred tax assets are recorded for the future benefit of utilizing net operating losses and research and

development credit carryforwards. Deferred tax assets and liabilities are measured using the enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect of changes in tax laws and rates on deferred tax assets and liabilities is recognized in income in the period of enactment.

Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some or all of the deferred tax assets will not be realized. The Company is required to use significant judgment in determining any valuation allowance recorded against its deferred tax assets. In assessing the need for a valuation allowance, the Company considers all available evidence, including scheduled reversal of deferred tax liabilities, past operating results, the feasibility of tax planning strategies and estimates of future taxable income. The Company bases its estimates of future taxable income on assumptions that are consistent with its operating plans, and such assumptions represent its best estimates and involve inherent uncertainties and the application of judgment. Should actual amounts differ from estimates, the amount of tax expense and liabilities recognized could be materially impacted. The Company recognizes the tax benefit from an uncertain tax position if it is more likely than not that the tax position will be sustained upon examination by the tax authorities, based on the merits of the position. The Company's policy is to recognize interest and penalties related to the underpayment of income taxes as a component of income tax expense or benefit. To date, there have been no interest or penalties incurred in relation to the unrecognized tax benefits.

Net Loss per Share

Basic net loss per share is computed by dividing the net loss by the weighted average number of common shares outstanding during the period.

Diluted net loss per share is computed by dividing the net loss by the sum of the weighted average number of shares of common stock outstanding and the dilutive common stock equivalent outstanding during the period. The Company's potentially dilutive common stock equivalent shares, which include incremental common shares issuable upon (i) the exercise of outstanding stock options, (ii) purchases through the 2020 Employee Stock Purchase Plan (the "2020 ESPP"), (iii) vesting of restricted stock units, and (vi) conversion of preferred stock, are only included in the calculation of diluted net loss per share when their effect is dilutive.

As of December 31, 2024, 2023, and 2022, the following outstanding common stock equivalents have been excluded from the calculation of net loss per share because their impact would be anti-dilutive.

	As of December 31,		
	2024	2023	2022
Stock options	18,218,126	18,899,849	15,240,197
Restricted stock units	9,547,643	296,751	260,859
Employee Stock Purchase Plan	239,366	3,453,901	2,436,764
Series A Convertible Preferred Stock*	97,000	97,000	97,000
Series B Convertible Preferred Stock*	2,842,158	2,842,158	2,842,158
	30,944,293	25,589,659	20,876,978

**on an as-converted basis*

The dilutive effect of potentially dilutive securities would be reflected in diluted earnings per common share by application of the treasury stock method. Under the treasury stock method, an increase in the fair market value of the Company's common stock could result in a greater dilutive effect from potentially dilutive securities.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates. Significant items subject to such estimates and assumptions include assumptions made in the fair value of intangible assets, inventories acquired as part of the acquisition of Proleukin®, equity awards and related stock-based compensation, assumptions used in measuring operating right-

of-use assets and operating lease liabilities, accounting for potential liabilities, including estimates inherent in accruals related to clinical trials, and the realizability of the Company's deferred tax assets.

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of Iovance Biotherapeutics, Inc. and its wholly-owned subsidiaries, Iovance Biotherapeutics Manufacturing LLC, Iovance Biotherapeutics GmbH, Iovance Biotherapeutics B.V., Iovance Biotherapeutics UK Ltd, Iovance Biotherapeutics UK SP Ltd, Iovance Biotherapeutics Canada, Inc., and Iovance Australia Pty Ltd. All intercompany accounts and transactions have been eliminated.

Foreign Currency Translation

The consolidated financial statements are presented in U.S. dollars, which is the Company's reporting currency. The assets and liabilities of the Company's subsidiaries whose functional currencies are not in U.S. dollars are translated into U.S. dollars at the related period-end exchange rate. The U.S. dollar effects that arise from translation of net assets of these subsidiaries at changing rates are recognized in accumulated other comprehensive loss in the consolidated balance sheets. The subsidiaries' net loss is translated into U.S. dollars by using the average exchange rate for the applicable period.

Segment Reporting

The Company operates in one segment, focused on innovating, developing, and commercializing therapies using autologous TIL for patients with solid tumor cancers. Refer to Note 11 to the consolidated financial statements included in this Annual Report on Form 10-K for details.

Concentrations

The Company is subject to credit risk from its portfolio of cash, cash equivalents and investments. Under its investment policy, the Company limits amounts invested in such securities by credit rating, maturity, industry group, investment type and issuer, except for securities issued by the U.S. government. The Company does not believe it is exposed to any significant concentrations of credit risk from these financial instruments. The Company maintains cash, cash equivalents and investment balances at three financial institutions. Management believes that the financial institutions which hold its cash are financially sound and, accordingly, minimal credit risk exists. As of December 31, 2024 and 2023, respectively, the Company's cash balances were in excess of insured limits maintained at the financial institutions.

Recent Accounting Standards

In November 2023, FASB issued Accounting Standard Update ("ASU") ASU 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures, which enhances the disclosures required for operating segments in annual and interim consolidated financial statements. ASU 2023-07 was effective for us in our annual reporting starting in fiscal year 2024 and for interim period reporting beginning in fiscal year 2025 on a retrospective basis. The Company adopted ASU 2023-07 as of December 31, 2024, and the enhanced disclosures as required are included in Note 11 – Segments.

In December 2023, the FASB issued ASU 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures, which requires public entities, on an annual basis, to provide disclosure of specific categories in the rate reconciliation, as well as disclosure of income taxes paid disaggregated by jurisdiction. ASU 2023-09 is effective for fiscal years beginning after December 15, 2024 on a prospective basis. Early adoption and retrospective reporting are permitted. The Company is currently evaluating the impact of ASU 2023-09 on its consolidated financial statements.

In November 2024, the FASB issued ASU 2024-03, Income Statement-Reporting Comprehensive Income-Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses, which requires the disaggregation of certain expense captions into specified categories in disclosures within the notes to the financial statements to provide enhanced transparency into the expense captions presented on the face of the income statement. ASU 2024-03 is effective for annual reporting periods beginning after December 15, 2026 and interim periods beginning after December 15, 2027, with early adoption permitted, and may be applied either prospectively or retrospectively to financial statements issued for reporting periods after the effective date of ASU

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2024-03 or retrospectively to any or all prior periods presented in the financial statements. The Company is currently evaluating the impact of adopting ASU 2024-03.

NOTE 3. CASH EQUIVALENTS AND INVESTMENTS

The amortized cost and fair value of cash equivalents and investments as of December 31, 2024 and December 31, 2023 were as follows (in thousands):

As of December 31, 2024	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. treasury securities	$ 207,970	$ 117	$ —	$ 208,087
Money market funds	61,432	—	—	61,432
Total investments	$ 269,402	$ 117	$ —	$ 269,519

As of December 31, 2023	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. treasury securities	$ 164,940	$ 39	$ —	$ 164,979
Money market funds	34,053	—	—	34,053
Total investments	$ 198,993	$ 39	$ —	$ 199,032

The fair value of cash equivalents and investments as of December 31, 2024 and December 31, 2023 are classified as follows in the Company's consolidated balance sheets (in thousands):

Classified as:	December 31, 2024	December 31, 2023
Cash equivalents	$ 61,432	$ 34,053
Short-term investments	208,087	164,979
Total investments	$ 269,519	$ 199,032

Cash equivalents in the tables above exclude cash demand deposits of $54.3 million and $80.8 million as of December 31, 2024 and 2023, respectively. Unrealized gains and losses are included in accumulated other comprehensive loss, and as of December 31, 2024 and 2023 no unrealized losses on available-for-sale securities have resulted from credit risk. All available-for-sale securities held as of December 31, 2024 and December 31, 2023 had contractual maturities of less than one year. No significant available-for-sale securities held as of the periods presented have been in a continuous unrealized loss position for more than 12 months. To date, the Company has not recorded any impairment charges on its investments.

Recurring Fair Value Measurements

As of December 31, 2024 and 2023, the fair value of the Company's financial assets that are measured at fair value on a recurring basis, which consist of cash equivalents and short-term and long-term investments classified as available-for-sale securities, are categorized in the table below based upon the lowest level of significant input to the valuations (in thousands):

	Assets at Fair Value as of December 31, 2024			
	Level 1	Level 2	Level 3	Total
U.S. treasury securities	$ 208,087	$ —	$ —	$ 208,087
Money market funds	61,432	—	—	61,432
Total investments	$ 269,519	$ —	$ —	$ 269,519

	Assets at Fair Value as of December 31, 2023			
	Level 1	Level 2	Level 3	Total
U.S. treasury securities	$ 164,979	$ —	$ —	$ 164,979
Money market funds	34,053	—	—	34,053
Total	$ 199,032	$ —	$ —	$ 199,032

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NOTE 4. PROLEUKIN® ACQUISITION

On January 23, 2023, the Company and its newly formed, wholly owned subsidiary, Iovance Biotherapeutics UK Ltd (the "Purchaser") entered into an Option Agreement (the "Option Agreement") with Clinigen Holdings Limited, Clinigen Healthcare Limited, and Clinigen, Inc. (collectively "Clinigen"), a global pharmaceutical services company, pursuant to which the Purchaser would acquire the worldwide rights for the manufacturing, supply, commercialization and sale of Proleukin® (aldesleukin) (the "Acquisition").

On May 18, 2023, the Company completed the Acquisition and specifically acquired (i) all issued and outstanding shares of Clinigen SP Limited (the "Target"), (ii) the business of the Target and Clinigen (the "Proleukin® Business") comprising the manufacturing, supply, commercialization and the generation of income from the Product rights and the undertaking of an active role in the development, maintenance and exploitation of those rights, and (iii) certain specified assets identified in the Option Agreement. Pursuant to the Option Agreement, the Company paid to Clinigen (i) an upfront payment of £166.9 million (or approximately $207.2 million), including the applicable stamp-tax payment, and (ii) a payment for certain inventory of £2.4 million (or approximately $3.0 million) using existing cash on hand. The Option Agreement includes potential future contingent payments, as discussed below.

The Acquisition was accounted for as an asset acquisition because substantially all of the fair value of the acquired assets was concentrated in the acquired developed technology related to the intellectual property rights of Proleukin® and therefore the Acquisition does not meet the definition of a business in accordance with ASC 805. The Proleukin® Business operations have been included in the Company's consolidated financial statements commencing from the acquisition date.

The following table summarizes the total cash consideration and allocated acquisition date fair values of assets acquired and liabilities assumed at the time of the acquisition (in thousands):

		Amounts
Cash	$	35
Inventory		9,688
Developed technology		232,665
Assembled workforce		636
Deferred tax liability		(20,352)
Total Cost of Acquisition	$	222,672

The $222.7 million of total cost of the Acquisition consisted of (i) a $210.2 million of cash payment to Clinigen and (ii) $12.5 million of direct transaction costs incurred by the Company. The Option Agreement additionally provides for contingent cash payments consisting of (i) a milestone payment of £41.7 million, or approximately $50.0 million, upon first approval of lifileucel in advanced melanoma, (ii) deferred consideration based on double digit rates on global net sales (as defined in the Option Agreement) payable from the Company to the sellers following the completion of the Acquisition over a deferred consideration term of twelve years, and (iii) after the deferred consideration term, earnout payments payable from the Company to sellers following the completion of the transaction if deferred consideration payments are equal or greater than the deferred consideration amount provided for in the Option Agreement. These contingent payments were determined to be within the scope of ASC 450 and will be recognized when they are both probable and estimable. During the first quarter of 2024, the Company made the required milestone payment of $52.6 million (£41.7 million) upon the approval of the Company's BLA of Amtagvi®, which was capitalized as an intangible asset and is being amortized over the remaining useful life of such asset. Additionally, $17.5 million (£13.9 million) was added to the carrying value of the acquired developed technology intangible asset, which reflects the deferred tax liability recognized on the temporary differences related to the book and tax basis of the acquired intangible assets.

The net assets acquired in the Acquisition were recorded by allocating the total cost of the Acquisition to the assets acquired on a relative fair value basis based on their estimated fair values as of May 18, 2023, which is the date that the Acquisition was completed.

The fair value of the developed technology was estimated using a multi-period excess earnings income approach that discounts expected cash flows to present value by applying a discount rate that represents the estimated rate that market participants would use to value the intangible assets. The fair value of the developed technology is being amortized over an expected useful life of 15 years and is recorded as Cost of Sales in the Company's consolidated statement of operations.

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The fair value of the assembled workforce was estimated using a replacement cost less depreciation method. The fair value of the assembled workforce is being amortized over an expected useful life of 3 years and is recorded as selling, general, and administrative expense in the Company's consolidated statement of operations.

The weighted average amortization period the developed technology and assembled workforce is 14.8 years.

The fair value of the acquired inventory was determined using the comparative sales method of the market approach, which uses historical and expected average selling prices of inventory as the base amount to which adjustment for costs to complete for work-in-process, cost of disposal and reasonable profit allowance are applied. The inventory fair value adjustment is being amortized as cost of sales as the acquired inventories are sold.

A deferred tax liability was recognized on the temporary differences related to the book and tax basis of the acquired intangible assets. The deferred tax liability and resulting adjustment to the carrying amount of the acquired intangibles was calculated using the simultaneous equations method under ASC 740. The tax rate used is based on the estimated statutory rates in the United Kingdom as this is where the intangible assets are domiciled.

NOTE 5. INTANGIBLE ASSETS, NET

The gross carrying amounts and net book value of intangible assets as of December 31, 2024 are as follows (in thousands):

	December 31, 2024	December 31, 2023
Developed technology	$ 304,939	$ 238,612
Assembled workforce	643	652
Intellectual property license	7,500	—
Total intangible assets	$ 313,082	$ 239,264
Less: accumulated amortization	(30,684)	(10,006)
Intangible assets, net	$ 282,398	$ 229,258

The Company recognized amortization expense of $21.2 million and $9.8 million during the years ended December 31, 2024 and December 31, 2023, respectively. Amortization expense for the developed technology and assembled workforce is recorded in cost of sales and selling, general, and administrative expense, respectively, in the consolidated statement of operations for the year ended December 31, 2024.

The total estimated amortization of the Company's intangible assets the years ending December 31, 2025, 2026, 2027, 2028 and 2029 are $21.5 million, $21.4 million, $21.3 million, $21.3 million, and $21.3 million, respectively.

NOTE 6. INVENTORY

As of December 31, 2024 and December 31, 2023, inventory consists of the following (in thousands):

	December 31, 2024	December 31, 2023
Raw materials	$ 27,743	$ —
Work in process	8,765	5,749
Finished goods	15,012	4,623
Total inventory	$ 51,520	$ 10,372

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NOTE 7. REVENUE

Net revenue for the periods presented represents sales of Amtagvi® and Proleukin® as follows (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Amtagvi®	$ 103,567	$ —	$ —
Proleukin®	60,503	1,189	—
Total net revenue	$ 164,070	$ 1,189	$ —

Revenue from Proleukin® was primarily related to sales made to specialty distributors and authorized treatment centers ("ATCs") in the U.S. market to support the commercialization of Amtagvi®. Amtagvi® revenue is recognized upon patient infusion, while Proleukin® revenue is recognized upon transfer of control, either upon shipment or upon delivery to customers, which include specialty distributors, clinical manufacturers, research organizations, and ATCs.

Revenue from product sales was recorded net of GTN adjustments. The following table summarizes GTN adjustments for the periods presented (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Gross revenue	$ 169,170	$ 1,192	$ —
GTN adjustments:			
Government rebates and chargebacks	(172)	—	—
Wholesaler fees and cash discounts	(3,226)	(3)	—
Other rebates, returns, discounts and adjustments	(1,702)	—	—
Total GTN adjustments	(5,100)	(3)	—
Net revenue	$ 164,070	$ 1,189	$ —

Consolidated net product revenue by geographic area for the periods presented is as follows (in thousands):

	Years Ended December 31,		
	2024	2023	2022
United States	$ 161,043	$ —	$ —
Rest of world	3,027	1,189	—
Net revenue	$ 164,070	$ 1,189	$ —

Net product revenue in the U.S. is comprised of Amtagvi® revenue, as well as Proleukin® sales to support the ongoing commercialization of Amtagvi®. Net product revenue to date for the rest of world is comprised of sales of Proleukin® into markets outside of the U.S., primarily into European markets.

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The following table summarizes the amount and percentage of gross revenue attributable to customers that represented more than 10% of the Company's gross revenue and all other customers as a group for the years ended December 31, 2024 and December 31, 2023, respectively (in thousands, except percentages):

	Year Ended December 31, 2024		Year Ended December 31, 2023	
	$	%	$	%
Customer A	$ 28,395	17%	$ —	0%
Other customers	140,775	83%	1,192	100%
Gross revenue	$ 169,170	100%	$ 1,192	100%
GTN adjustments	(5,100)		(3)	
Net revenue	$ 164,070		$ 1,189	

NOTE 8. PROPERTY AND EQUIPMENT, NET

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

	December 31, 2024	December 31, 2023
Leasehold improvements	$ 67,375	$ 76,804
Lab, process, and validation equipment	25,477	23,131
Utility equipment	5,990	5,990
Office furniture and equipment	1,998	3,297
Computer software	8,512	7,772
Computer equipment	448	542
Machinery and equipment	363	306
Construction in progress	34,938	24,101
Total property and equipment, cost	$ 145,101	$ 141,943
Less: Accumulated depreciation and amortization	(36,020)	(27,913)
Property and equipment, net	$ 109,081	$ 114,030

Depreciation and amortization expense for the years ended December 31, 2024, 2023, and 2022 was approximately $12.0 million, $11.6 million and $9.3 million, respectively. As a result of the early termination of the former headquarters lease for the Company's prior offices, the Company impaired approximately $7.4 million of long-lived assets, which included leasehold improvements, computer equipment and furniture and fixtures (See Note 15 – Leases).

NOTE 9. ACCRUED EXPENSES

Accrued expenses consist of the following (in thousands):

	December 31, 2024	December 31, 2023
Accrued payroll and employee related expenses	$ 31,910	$ 34,814
Clinical related	13,017	10,911
Manufacturing related	10,084	10,893
Facilities related	6,748	2,437
Legal and related services	2,466	1,610
Inventory and distribution related	12,471	2,148
Other accrued expenses	5,240	6,593
Total accrued expenses	$ 81,936	$ 69,406

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NOTE 10. STOCKHOLDERS' EQUITY

Common Stock

The Company's certificate of incorporation, as amended, authorizes the issuance of up to 500,000,000 shares of the Company's common stock, par value $0.000041666. As of December 31, 2024, 305,252,194 shares of the Company's common stock were issued and outstanding.

Public Offerings

On February 22, 2024, the Company closed an underwritten public offering of 23,014,000 shares of its common stock at a public offering price of $9.15 per share, before underwriting discounts and commissions. The total net proceeds to the Company from the offering were $197.4 million after deducting underwriting discounts and commissions and offering expenses payable by the Company.

On July 13, 2023, the Company closed an underwritten public offering of 23,000,000 shares of the Company's common stock, which included 3,000,000 shares of common stock issued pursuant to the exercise of the option granted to the underwriters, at a public offering price of $7.50 per share, before underwriting discounts and commissions. The total net proceeds to the Company from the offering, including the exercise of the option by the underwriters, were $161.5 million after deducting underwriting discounts and commissions and offering expenses payable by the Company.

At the Market Offering Program

On November 18, 2022, the Company entered into an Open Market Sale Agreement (the "2022 Sale Agreement") with Jefferies LLC ("Jefferies"). Under the terms of the 2022 Sale Agreement, the Company was able to, from time to time, at its sole discretion, issue and sell through Jefferies, acting as a sales agent, up to $500.0 million of shares of the Company's common stock. On June 16, 2023, the Company entered into a new Open Market Sale Agreement (the "2023 Sale Agreement"), which superseded and replaced in its entirety the 2022 Sale Agreement, which was terminated by the Company. Under the terms of the 2023 Sale Agreement, the Company may, from time to time, in its sole discretion, issue and sell through Jefferies, acting as a sales agent, up to $450.0 million of shares of the Company's common stock. The issuance and sale, if any, of the shares of common stock by the Company under the 2023 Sale Agreement was or will be made pursuant to a prospectus supplement dated June 16, 2023 to the Company's Registration Statement on Form S-3ASR, which became effective immediately upon filing with the SEC on June 16, 2023.

Pursuant to the 2023 Sale Agreement, Jefferies may sell the Common Shares by any method permitted by law deemed to be an "at the market" offering as defined in Rule 415 of the Securities Act of 1933, as amended. Jefferies will use commercially reasonable efforts consistent with its normal trading and sales practices to sell the Common Shares from time to time, based upon instructions from the Company (including any price or size limits or other customary parameters or conditions the Company may impose). The Company will pay Jefferies a commission of up to 3.0% of the gross sales proceeds of any Common Shares sold through Jefferies under the 2023 Sale Agreement.

The Company is not obligated to make any sales of Common Shares under the 2023 Sale Agreement. The offering of Common Shares pursuant to the 2023 Sale Agreement will terminate upon the earlier to occur of (i) the issuance and sale, through Jefferies, of all Common Shares subject to the 2023 Sale Agreement and (ii) termination of the 2023 Sale Agreement in accordance with its terms.

For the years ended December 31, 2024, 2023 and 2022, the Company received $200.0 million, $301.7 million, and $189.5 million in net proceeds, net of offering costs, through the sale of 23,127,726 shares, 44,080,226 shares and 29,788,993 shares of its common stock through the 2023 Sale Agreement and/or the 2022 Sale Agreement at a weighted average price per share of $8.82, $6.99 and $6.52, respectively.

Preferred Stock

The Company's certificate of incorporation authorizes the issuance of up to 50,000,000 shares of "blank check" preferred stock. As of December 31, 2024, 17,000 shares were designated as Series A Convertible Preferred Stock and 11,500,000 shares were designated as Series B Convertible Preferred Stock.

IOVANCE BIOTHERAPEUTICS, INC.
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Series A Convertible Preferred Stock

A total of 17,000 shares of Series A Convertible Preferred Stock have been authorized for issuance under the Company's Certificate of Designation of Preferences and Rights of Series A Convertible Preferred Stock. The shares of Series A Convertible Preferred Stock have a stated value of $1,000 per share and are initially convertible into shares of common stock at a price of $2.00 per share, subject to adjustment. Each share of Series A Preferred Stock is initially convertible into 500 shares of common stock.

The Series A Convertible Preferred Stock may, at the option of each investor, be converted into fully paid and non-assessable shares of common stock. The holders of shares of Series A Convertible Preferred Stock do not have the right to vote on matters that come before the Company's stockholders. In the event of any dissolution or winding up of the Company, proceeds shall be paid pari passu among the holders of common stock and preferred stock, pro rata based on the number of shares held by each holder. The Company may not declare, pay or set aside any dividends on shares of capital stock of the Company (other than dividends on shares of common stock payable in shares of common stock) unless the holders of the Series A Convertible Preferred Stock shall first receive an equal dividend on each outstanding share of Series A Convertible Preferred Stock.

No shares of Series A Convertible Preferred Stock were converted to common stock during the year ended December 31, 2024 and 2023. As of December 31, 2024, and 2023, 194 shares of Series A Convertible Preferred Stock (that are convertible into 97,000 shares of common stock) remained outstanding.

Series B Convertible Preferred Stock

A total of 11,500,000 shares of Series B Convertible Preferred Stock are authorized for issuance under the Company's Series B Certificate of Designation of Rights, Preferences and Privileges of Series B Convertible Preferred Stock. The shares of Series B Convertible Preferred Stock have a stated value of $4.75 per share and are convertible into shares of the Company's common stock at an initial conversion price of $4.75 per share. Each share of Series B Preferred Stock is initially convertible into 1 share of common stock.

The Series B Convertible Preferred Stock may, at the option of each investor, be converted into fully paid and non-assessable shares of common stock. The holders of Series B Convertible Preferred Stock do not have the right to vote on matters that come before the Company's stockholders. In the event of any dissolution or winding up of the Company, proceeds shall be paid pari passu among the holders of common stock and preferred stock, pro rata based on the number of shares held by each holder. Holders of Series B Convertible Preferred Stock are entitled to dividends on an as-if-converted basis in the same form as any dividends actually paid on shares of the Series A Convertible Preferred Stock or the Company's common stock. So long as any Series B Convertible Preferred Stock remains outstanding, the Company may not redeem, purchase or otherwise acquire any material amount of the Series A Convertible Preferred Stock or any securities junior to the Series B Convertible Preferred Stock.

No shares of Series B Convertible Preferred Stock were converted to common stock during the year ended December 31, 2024 and 2023. At December 31, 2024 and 2023, 2,842,158 shares of Series B Preferred Stock (that are convertible into 2,842,158 shares of common stock) remained outstanding.

Equity Incentive Plans

The Company has multiple equity incentive plans under which it grants awards.

As of June 11, 2024, the Company's stockholders approved the termination of the 2014 Equity Incentive Plan (the "2014 Plan"). In addition, the Company's stockholders approved the recapture by the 2018 Equity Incentive Plan (the "2018 Plan") of awards granted under the 2014 Plan that expire, terminate, or are cancelled or forfeited without being settled, vested, or exercised after the stockholders' approval.

On April 22, 2018, the Company's Board of Directors (the "Board") adopted the Iovance Biotherapeutics, Inc. 2018 Equity Incentive Plan (the "2018 Plan"), which was approved by the Company's stockholders in June 2018. The 2018 Plan as approved initially authorized the issuance up to an aggregate of 6,000,000 shares of common stock in the form of incentive (qualified) stock options, non-qualified options, common stock, stock appreciation rights, restricted stock awards, restricted stock units, other stock-based awards, other cash-based awards or any combination of the foregoing. On June 8, 2020, the Company's stockholders approved an amendment to the 2018 Plan to increase the number of shares available for issuance upon the exercise of stock options under the 2018 Plan from

6,000,000 to 14,000,000 shares, which became effective immediately. Additionally, on June 10, 2022, the Company's stockholders approved an amendment to the 2018 Plan to increase the number of shares available for issuance upon the exercise of stock options under the 2018 Plan from 14,000,000 to 20,700,000 shares, which became effective immediately. On June 6, 2023, the Company's stockholders approved an amendment to the 2018 Plan to increase the number of shares available for issuance under the 2018 Plan from 20,700,000 to 29,700,000, which became effective immediately. On June 11, 2024, the Company's stockholders approved an amendment to the 2018 Plan to increase the number of shares available for issuance under the 2018 Plan from 29,700,000 to 36,700,000 and permit share recapture from the 2014 Plan, which became effective immediately. As of December 31, 2024, 8,917,507 shares of common stock were available for grant under the Company's 2018 Plan, including shares recaptured from the 2014 Plan.

On September 22, 2021, the Board adopted the Iovance Biotherapeutics, Inc. 2021 Inducement Plan (the "2021 Inducement Plan"). The 2021 Inducement Plan provides for the grant of non-qualified options, common stock, stock appreciation rights, restricted stock awards, restricted stock units, other stock-based awards, other cash-based awards, or any combination of the foregoing. The 2021 Inducement Plan was recommended for approval by the Compensation Committee of the Board (the "Compensation Committee"), and subsequently approved and adopted by the Board without stockholder approval pursuant to Rule 5635(c)(4) of the rules and regulations of The Nasdaq Stock Market LLC (the "Nasdaq Listing Rules").

The Board initially reserved 1,000,000 shares of the Company's common stock for issuance pursuant to equity awards granted under the 2021 Inducement Plan, and the 2021 Inducement Plan is administered by the Compensation Committee. On January 12, 2022, the Compensation Committee approved an amendment to the 2021 Inducement Plan solely to increase the number of shares reserved for issuance under the 2021 Inducement Plan from 1,000,000 shares of the Company's common stock to 1,750,000 shares of the Company's common stock without stockholder approval pursuant to Rule 5635(c)(4) of the Nasdaq Listing Rules.

The Compensation Committee approved additional amendments to the 2021 Inducement Plan solely to increase the number of shares reserved for issuance under the 2021 Inducement Plan from 1,750,000 to 2,250,000 shares of the Company's common stock on March 13, 2023, from 2,250,000 to 2,750,000 shares of the Company's common stock on February 26, 2024, and from 2,750,000 shares to 4,750,000 shares on November 22, 2024 without stockholder approval pursuant to Rule 5635(c)(4) of the Nasdaq Listing Rules. In accordance with Rule 5635(c)(4) of the Nasdaq Listing Rules, equity awards under the 2021 Inducement Plan may only be made to an employee if such employee is granted such equity awards in connection with his or her commencement of employment with the Company or a subsidiary and such grant is an inducement material to his or her entering into employment with the Company or such subsidiary. In addition, awards under the 2021 Inducement Plan may only be made to employees who have not previously been an employee or member of the Board (or any parent or subsidiary of the Company) or following a bona fide period of non-employment of the employee by the Company (or a parent or subsidiary of the Company). As of December 31, 2024, 1,867,121 shares of common stock were available for grant under the Inducement Plan.

Stock Options

A summary of the status of stock options as of December 31, 2024, and the changes during the three years then ended, is presented in the following table:

	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contract Life (Years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2023	18,899,849	$ 18.57		$
Issued	1,731,325	9.72		
Exercised	(425,925)	7.67		
Expired/Cancelled	(1,987,123)	23.78		
Outstanding at December 31, 2024	18,218,126	$ 17.41	6.26	$ 2,550
Ending vested and expected to vest at December 31, 2024	18,218,126	$ 17.41	6.26	$ 2,550
Options exercisable at December 31, 2024	14,137,830	$ 19.96	5.56	$ 1,527

As of December 31, 2024, there was $20.8 million of total unrecognized compensation expense related to unvested employee stock options, which the Company expects to recognize over a remaining weighted average period of 1.71years.

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The weighted average grant date fair value for employee options granted under the Company's stock option plans during the years ended December 31, 2024, 2023, and 2022 was $6.97, $4.91, and $8.29 per option, respectively.

The aggregate intrinsic value in the table above reflects the total pre-tax intrinsic value (the difference between the Company's closing stock price on the last trading day of the year ended December 31, 2024 and the exercise price of the options, multiplied by the number of in-the-money stock options) that would have been received by the option holders had all option holders exercised their options on December 31, 2024. The intrinsic value of the Company's stock options changes based on the closing price of the Company's common stock.

The aggregate intrinsic value of stock options exercised during the year ended December 31, 2024, 2023, and 2022 were $1.1 million, $0.01 million, and $0.04 million, respectively.

Employee Stock Purchase Plan

In June 2020, the Company adopted the 2020 ESPP upon its approval by the Company's shareholders at its Annual Stockholders Meeting on June 8, 2020. The Company reserved 500,000 shares of its common stock for issuance under the 2020 ESPP. On June 6, 2023, the Company's stockholders approved an amendment to the 2020 ESPP to increase the number of shares reserved for issuance under the 2020 ESPP from 500,000 shares of the Company's common stock to 1,400,000 shares of the Company's common stock, which became effective immediately. On June 11, 2024, the Company's stockholders approved an amendment to the 2020 ESPP, to increase the number of shares reserved for issuance under the 2020 ESPP from 1,400,000 to 1,900,000 shares of the Company's common stock, which became effective immediately.

Under the 2020 ESPP, employees of the Company can purchase shares of its common stock based on a percentage of their compensation subject to certain limits. The purchase price per share is equal to the lower of 85% of the fair market value of its common stock on the offering date or the purchase date with a six-month look-back feature. The 2020 ESPP purchases are settled with common stock from the 2020 ESPP's previously authorized and available pool of shares.

The compensation expense related to the 2020 ESPP for the years ended December 31, 2024, 2023 and 2022 was $1.5 million, $1.2 million and $1.3 million, respectively. Under the 2020 ESPP, for the years ended December 31, 2024 and 2023, the Company received proceeds of $3.0 million for the issuance of 497,044 shares and $2.4 million for the issuance of 435,459 shares, respectively. As of December 31, 2024, there was $0.7 million of unrecognized compensation cost associated with the 2020 ESPP, which is expected to be recognized over 5.3 months.

Restricted Stock Units and Performance Restricted Stock Units

In addition to RSUs that have time-based vesting requirements, from time to time the Company may issue RSUs that include certain performance vesting criteria based upon the satisfaction of stated objectives ("PRSUs"). Compensation expense related to PRSUs is based on the grant date fair value of the award and recorded from the period that achievement is determined to be probable through the stated service period associated with the award. There were no unvested PRSUs outstanding as of December 31, 2024.

Activity for RSUs and PRSUs during the years ended December 31, 2024 and 2023 is presented in the following table:

	Number of RSUs and PRSUs	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2023	3,453,901	$ 8.97
Granted	9,924,555	16.53
Vested/Released	(3,150,172)	12.95
Canceled/Forfeited	(680,641)	15.09
Outstanding at December 31, 2024	9,547,643	$ 15.08
Ending vested and expected to vest at December 31, 2024	9,547,643	$ 15.08

As of December 31, 2024 and 2023, there was $84.3 million and $19.9 million of unrecognized stock-based compensation expense associated with unvested RSUs, which the Company expects to recognize over a remaining weighted-average period of 1.61

and 1.65 years, respectively. The aggregate intrinsic value of the unvested RSUs outstanding as of December 31, 2024 was $70.7 million and the aggregate intrinsic value of the unvested RSUs and PRSUs as of December 31, 2023 was $28.1 million.

Stock-Based Compensation

Total stock-based compensation expense related to the Company's stock-based awards was recorded on the consolidated statements of operations as follows (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Cost of sales	$ 8,554	$ —	$ —
Research and development	49,270	34,926	50,242
Selling, general, and administrative	51,799	27,699	33,780
Total stock-based compensation expense	$ 109,623	$ 62,625	$ 84,022

The amount included in capitalized inventory for stock-based compensation expense for personnel engaged with manufacturing activities was $1.2 million as of December 31, 2024. No such cost was included in inventory as of December 31, 2023.

Total stock-based compensation expense by type of award was as follows (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Stock option expense	$ 21,112	$ 45,340	$ 58,308
Restricted stock expense	87,025	16,062	24,436
ESPP expense	1,486	1,223	1,278
Total stock-based compensation expense	$ 109,623	$ 62,625	$ 84,022

The following table summarizes the assumptions relating to options granted pursuant to the Company's equity incentive plans for the years ended December 31, 2023, 2022, and 2021:

	Stock Options			ESPP		
	Years Ended December 31,			Years Ended December 31,		
Assumptions:	2024	2023	2022	2024	2023	2022
Expected term (years)	5.41 - 5.56	5.18 - 5.37	4.94 - 5.12	0.50	0.5	0.50
Expected volatility	85.03% - 85.85%	83.63% - 84.21%	73.73% - 83.90%	73.85% - 98.85%	72.96% - 83.36%	73.02% - 137.42%
Risk-free interest rate	3.61% - 4.33%	3.59% - 4.60%	1.25% - 4.05%	4.35% - 5.40%	5.38% - 5.40%	1.98% - 4.78%
Expected dividend yield	0%	0%	0%	0%	0%	0%

- *Expected Term (Years)*—The expected term of the stock option grants was calculated based on historical exercises, cancellations, and forfeitures of stock options and outstanding option shares.
- *Expected Volatility* —The expected volatility is based on the historical volatility for the Company's stock over a period equal to the expected terms of the options.
- *Risk-Free Interest Rate* —The risk-free interest rate was based on the market yield currently available on United States Treasury securities with maturities approximately equal to the option's expected term.
- *Expected Dividend Yield* —The Company has never paid dividends and does not expect to pay dividends in the foreseeable future.
- *Forfeiture Rate* —The Company recognizes forfeitures as they occur.

Each of the inputs discussed above is subjective and generally requires significant management judgment.

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NOTE 11. SEGMENT INFORMATION

The Company operates in one segment, focusing on innovating, developing, and commercializing therapies using its autologous TIL cell therapies for patients with solid tumor cancers. The Company is executing the U.S. launch of Amtagvi®, the first product within its autologous TIL cell therapy platform, while also marketing and distributing its Proleukin® product used in the Amtagvi® treatment regimen.

The Company's Chief Operating Decision Maker ("CODM") is the Chief Executive Officer, who uses net loss as measurement of segment loss and monitors results against budget to evaluate and assess performance of the Company and resource allocation within the Company. The measure of segment assets is reported on the balance sheet as total consolidated assets.

The table below highlights the Company's revenue, expenses and net loss for the segment and is reconciled to net loss on a consolidated basis for the year ended December 31, 2024 and 2023.

(in thousands)	Years Ended December 31,		Increase (Decrease)	
	2024	2023	$	%
Net sales	$ 164,070	$ 1,189	162,881	13,698
Direct cost of goods sold (a)	$ 83,637	$ 663		
Acquisition related cost of sales (b)	$ 26,161	$ 10,092		
Royalties	$ 14,197	$ -		
Total cost of sales	$ 123,995	$ 10,755	113,240	1,053
Expenses				
Research and development	$ 200,361	$ 278,032	(77,671)	(27.9)
General and administrative	$ 97,153	$ 88,960	8,193	9.2
Sales and marketing	$ 26,986	$ 21,376	5,610	26.2
Other segment items (c)	$ 87,752	$ 46,104	41,648	90.3
Total expenses	$ 412,252	$ 434,471	(22,220)	(5.1)
Net loss	$ (372,177)	$ (444,037)	(71,860)	(16.2)

a) Direct cost of goods sold represents inventory and period costs related to overhead and manufacturing costs of Amtagvi® as well as costs associated with the purchases and sales of Proleukin®. Also included are manufacturing and period costs incurred for Amtagvi® that do not meet specifications or a patient is unable to receive the infusion (i.e., scrap) unless they can be administered as part of a clinical trial in an expanded or early access program, or single-patient IND, in which cases related costs are recorded as research and development expenses based on the fact the Company receives clinical data related to these infusions. This category is provided to the CODM on a quarterly basis in comparison to that of previous quarters for review as these costs are controllable costs that indicate operating performance of the Company.

b) Acquisition related cost of sales represents amortization expenses for the developed technology intangible assets and the milestone payment recorded as part of the acquisition of Proleukin® and the fair value step-up of acquired Proleukin® inventory which is recognized as the acquired inventory units are sold. This category is provided to the CODM on a quarterly basis as costs in this category are often reviewed separately in evaluating the performance of the Company because these costs are fixed and uncontrollable costs in nature, and do not affect cashflows of the Company.

c) Other segment items include costs that are not considered significant expense segments nor reviewed by the CODM on a regular basis. Such amount includes stock-based compensation expenses, interest income, other income and expenses, and income tax benefits.

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NOTE 12. EMPLOYEE BENEFIT PLAN

The Company maintains a defined contribution plan covering substantially all U.S. employees under Section 401(k) of the Internal Revenue Code of 1986, as amended (the "IRC"). The Company's matching contribution to the defined contribution plan was $4.7 million, $4.1 million, and $3.0 million for the years ended December 31, 2024, 2023 and 2022, respectively.

NOTE 13. INCOME TAXES

Loss before provision of income taxes consisted of U.S. losses of $359.9 million, $433.5 million, and $395.8 million, and foreign losses of $15.1 million, $14.0 million, and $0.1 million for the years ended December 31, 2024, December 31, 2023, and December 31, 2022, respectively. The Company recorded a tax benefit of $2.8 million and $3.5 million for the years ended December 31, 2024 and December 31, 2023, respectively, which resulted in an effective tax rate of 0.75% and 0.78% respectively. The income tax benefit for the periods presented primarily relates to operations in the United Kingdom and the movement of deferred tax assets and liabilities. No income tax benefit was recorded for the year ended December 31, 2022.

The significant components of the Company's net deferred tax assets and liabilities are summarized as follows (in thousands):

	As of December 31,	
	2024	2023
Deferred income tax assets:		
Net operating loss carryforwards	$ 302,875	$ 255,639
Stock-based compensation	40,909	28,609
Tax credit carryforwards	66,874	58,565
Lease liabilities	14,759	16,024
Capitalized R&D	137,577	99,107
Reserves and accruals	11,523	6,540
Deferred tax assets before valuation allowance	574,517	464,484
Less: valuation allowance	(557,587)	(446,853)
Net deferred income tax assets	16,930	17,631
Deferred tax liabilities:		
Right-of-use assets	(14,228)	(13,381)
Depreciation and amortization	(35,017)	(21,597)
Net deferred tax assets (liabilities)	$ (32,315)	$ (17,347)

The reconciliation of the effective income tax rate to the U.S. statutory rate is as follows:

	Years ended December 31,		
	2024	2023	2022
Federal statutory tax rate	21 %	21 %	21 %
Orphan drug and research credits	2	2	1
Permanent and other differences	(2)	(1)	(1)
Stock-based compensation	(1)	(1)	(1)
State tax, net of federal benefit	10	1	1
	30 %	22 %	21 %
Valuation allowance	(29)%	(21)%	(21)%
Effective tax rate	1 %	1 %	— %

The Company had net operating loss carryforwards ("NOLs") for federal, state, and foreign income tax purposes of approximately $1.3 billion, $331.9 million, and $15.2 million, respectively, as of December 31, 2024. $142.4 million of federal NOLs will expire beginning in 2027, while $1.2 billion generated after the recently enacted tax reform will have an indefinite life under the Tax Cuts and Jobs Act of 2017 (the "Tax Act"). The state NOLs will expire if unused in years 2030 through 2044. The foreign NOLs do not expire. The Company had $80.6 million of federal and $19.0 million of California research and development tax credit and other tax credit carryforwards available to offset future taxable income. The federal credits begin to expire in 2033, and the California research credits have no expiration dates.

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The Company's utilization of NOLs and tax credits is subject to an annual limitation due to ownership changes that have occurred previously or that could occur in the future as provided in Section 382 of the Internal Revenue Code ("Section 382"), as well as similar state provisions. Section 382 limits the utilization of NOLs and tax credits when there is a greater than 50% change of ownership as determined under the regulations. Since its formation, the Company has raised capital through the issuance of capital stock and various convertible instruments which, combined with the purchasing shareholders' subsequent disposition of these shares, has resulted in multiple ownership changes as defined by Section 382, and could result in ownership change in the future upon subsequent disposition. The Company's utilization of NOLs and Tax Credits may also be adversely affected by future changes in federal and state tax laws and regulations.

In assessing the realization of deferred tax assets, management considers whether it is more likely than not that some portion or all the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon future generation for taxable income during the periods in which temporary differences representing net future deductible amounts become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in making this assessment. After consideration of all the information available, management continues to maintain a full valuation allowance against U.S. federal and state net deferred tax assets due to the Company's cumulative loss position and lack of sufficient positive evidence to support the realizability of its U.S. net deferred tax assets. For the years ended December 31, 2024, 2023 and 2022, the change in the valuation allowance was approximately $110.7 million, $96.4 million, and $82.9 million, respectively.

The Company evaluated the provisions of ASC 740 related to the accounting for uncertainty in income taxes recognized in an enterprise's financial statements. ASC 740 prescribes a comprehensive model for how a company should recognize, present, and disclose uncertain positions that the Company has taken or expects to take in its tax return. For those benefits to be recognized, a tax position must be more-likely-than-not to be sustained upon examination by taxing authorities. Differences between tax positions taken or expected to be taken in a tax return and the net benefit recognized and measured pursuant to the interpretation are referred to as "unrecognized benefits." A liability is recognized (or amount of NOL carry-forward or amount of tax refundable is reduced) for unrecognized tax benefits because it represents an enterprise's potential future obligation to the taxing authority for a tax position that was not recognized as a result of applying the provisions of ASC 740.

If applicable, interest costs related to the unrecognized tax benefits are required to be calculated and would be classified as income tax expenses in the consolidated statements of operations. Penalties would be recognized as a component of selling, general and administrative expenses in the consolidated statements of operations.

A reconciliation of the beginning and ending balances of the unrecognized tax benefits during the years ended December 31, 2024, 2023 and 2022 is as follows (in thousands):

	Years Ended December 31,		
	2024	2023	2022
Unrecognized benefit - beginning of period	$ 26,107	$ 21,645	$ 18,171
Gross decreases - prior period tax positions	—	—	—
Gross increases - current period tax positions	3,747	4,462	3,474
Unrecognized benefit - end of period	$ 29,854	$ 26,107	$ 21,645

No interest or penalties on unpaid tax were recorded during the years ended December 31, 2024, 2023, or 2022. The Company does not anticipate any significant changes within 12 months of this reporting date of its uncertain tax positions.

The Company files tax returns in U.S. federal and state jurisdictions, as well as foreign jurisdictions. The U.S. federal and U.S. state taxing authorities may choose to audit tax returns for tax years beyond the statute of limitation period due to significant tax attribute carryforwards from prior years, making adjustments only to carryforward attributes. The Company is not currently under examination by income tax authorities in federal, state or other foreign jurisdictions.

The Inflation Reduction Act of 2022 (the "Act"), which includes certain new tax measures, was signed into law in August 2022. The Act contains two main tax provisions, a new corporate alternative minimum tax imposed on certain corporations meeting average annual financial statement income of more than $1 billion during a three-year tax period, and an excise tax imposed upon share repurchases by certain publicly traded corporations. The Act is effective for tax years beginning after December 31, 2022; however, the

provisions of the Act will not have an impact on the Company's consolidated financial statements. The Company will continue to monitor the effect of the Act and its impact on the Company.

NOTE 14. LICENSES AND AGREEMENTS

National Institutes of Health (the "NIH") and the National Cancer Institute (the "NCI")

Cooperative Research and Development Agreement (the "CRADA")

In August 2011, the Company signed a five-year CRADA with the NCI to work on the development of adoptive cell immunotherapies in multiple solid tumor types, including unmodified TIL as a stand-alone therapy or in combination, improved methods for the generation and selection of TIL cell therapy with anti-tumor reactivity, and strategies for more potent TILs. The CRADA has been amended since then to, among other things, extend the term of the CRADA, include new indications such as bladder, lung, triple-negative breast, and Human Papilloma Virus ("HPV")-associated cancers, and modify the focus on the development of unmodified TIL as a stand-alone therapy or in combination, the evaluation in clinical trials of strategies for development of more potent TILs, such as selection of CD39/69 double negative cells and the use of certain inhibitors or other reagents in TIL expansion cultures.

In July 2024, the NCI and the Company entered into a fourth amendment to the CRADA to extend its term by an additional five years to August 2029. The fourth amendment also includes collaboration on preclinical and clinical development of enhanced tumor reactive TIL products for the treatment of a broad range of common epithelial cancers.

Pursuant to the terms of the CRADA, as amended, the Company was required to make quarterly payments of $0.5 million to the NCI for support of research activities through the end of 2024. Commencing in 2025, the Company is required to make quarterly payments of $0.9 million to the NCI for support of research activities through the end of the CRADA's term. To the extent the Company licenses patent rights relating to a TIL-based product candidate, the Company will be responsible for all patent-related expenses and fees, past and future, relating to the TIL-based product candidate. In addition, the Company may be required to supply certain test articles, including TIL, grown and processed under Current Good Manufacturing Practice ("cGMP") conditions, suitable for use in clinical trials. The Company or the NCI may unilaterally terminate the CRADA for any reason or for no reason at any time by providing written notice at least 60 days before the desired termination date. The Company recorded costs associated with the CRADA of $2.0 million for each of the years ended December 31, 2024, 2023 and 2022, respectively, as research and development expenses.

Patent License Agreement Related to the Development and Manufacture of TIL Cell Therapies

The Company entered into an Exclusive Patent License Agreement (the "Patent License Agreement") with the NIH, an agency of the U.S. Public Health Service within the Department of Health and Human Services, in 2011, as amended in 2015. Pursuant to the Patent License Agreement, as amended, the NIH granted the Company licenses, including exclusive, co-exclusive, and non-exclusive licenses, to certain technologies relating to autologous tumor infiltrating lymphocyte adoptive cell therapy products for the treatment of metastatic melanoma, lung, breast, bladder and HPV-positive cancers.

In May 2021, the Company entered into an Amended and Restated Patent License Agreement with NIH, which included the grant of additional exclusive, worldwide patent rights in the indications to interleukin-15 and interleukin-21 cytokine-tethered TIL technology, and expanded the non-exclusive, worldwide field of use to all cancers. In August 2022, the Company entered into a Second Amended and Restated Patent License Agreement with NIH to include additional exclusive, worldwide patent rights to TIL products expressing interleukin-12, expanded rights to TIL selection technologies previously licensed under the Exclusive Patent License Agreement below, and additional non-exclusive, worldwide patent rights to certain technologies related to enhancing TIL potency.

The Second Amended and Restated Patent License Agreement requires the Company to pay royalties based on a percentage of net sales in jurisdictions where patent rights exist, which percentage can fall into a tier that may be less than one percent to mid-single digits depending upon certain events, including the exclusivity of the rights, and the Company expects lower overall royalty payments as a result. The Company is also required to pay potential milestone payments on the achievement of certain clinical, regulatory, and commercial sales milestones for each of the indications and other direct costs incurred by the NIH pursuant to the Second Amended and Restated Patent License Agreement. The Company has made and anticipates making additional payments that could range from several hundred thousand dollars to the mid-single-digit millions of dollars in conjunction with certain development milestones, the approval of a BLA or its foreign equivalent, or the first U.S. and foreign commercial sales of any of its product candidates covered by the Second

Amended and Restated Patent License Agreement. The term of the Second Amended and Restated Patent License Agreement continues until the expiry of the last-to-expire patent rights licensed thereunder, and the agreement contains standard termination provisions. The Company paid and recorded a $0.6 million milestone payment for an intellectual property license that was payable within 60 days of successful completion of the first Company-sponsored Phase 2 clinical study in melanoma, as research and development expenses, for the year ended December 31, 2023. The Company also paid a $1.5 million milestone payment for an intellectual property license that was payable within 60 days of the approval of Amtagvi® for use in the treatment of melanoma, and a $6.0 million milestone payment for an intellectual property license that was payable within 60 days of the approval of the first commercial sale of Amtagvi® for use in the treatment of melanoma in the U.S. in accordance with the requirements of the Second Amended and Restated Patent License Agreement. Both aforementioned milestone payments have been capitalized and recorded as intangible assets on the consolidated balance sheet. During the year ended December 31, 2024, the Company recorded $0.7 million, as a component of cost of sales related to amortization of the milestone payments. No expenses were recorded for the years ended December 31, 2023 and 2022.

Exclusive Patent License Agreement Related to TIL Selection

On February 10, 2015, the Company entered into an exclusive patent license agreement (the "Exclusive Patent License Agreement") with the NIH under which the Company received an exclusive, worldwide license under the selected TIL patents. This license was superseded and replaced by the Second Amended and Restated Patent License Agreement.

H. Lee Moffitt Cancer Center

Research Collaboration and Clinical Grant Agreements with Moffitt

In June 2020, the Company entered into a Sponsored Research Agreement (the "SRA") with the H. Lee Moffitt Cancer Center ("Moffitt"), with a term that ended either upon completion of the research thereunder or on July 1, 2022, whichever is sooner. The SRA has been extended multiple times and currently has an expiration date of May 31, 2025. The Company recorded research and development costs of $0.2 million, $0.2 million and $0.6 million for each of the years ended December 31, 2024, 2023 and 2022, respectively.

The University of Texas M.D. Anderson Cancer Center

Strategic Alliance Agreement

In April 2017, the Company entered into a Strategic Alliance Agreement (the "SAA") with The University of Texas M.D. Anderson Cancer Center ("MDACC") under which the Company and MDACC agreed to conduct clinical and preclinical research studies. The Company agreed in the SAA to provide total funding not to exceed approximately $14.2 million for the performance of the multi-year studies under the SAA, of which approximately $5.3 million has been funded to date and has been recorded as research and development expense. In return, the Company acquired all rights to inventions resulting from the studies and has been granted a non-exclusive, sub-licensable, royalty-free, and perpetual license to specified background intellectual property of MDACC reasonably necessary to exploit, including the commercialization thereof. The Company has also been granted certain rights in clinical data generated by MDACC outside of the clinical trials to be performed under the SAA. The SAA's term shall continue in effect until the later of the fourth anniversary of the SAA or the completion or termination of the research and receipt by the Company of all deliverables due from MDACC thereunder. On March 28, 2024, the Company and MDACC entered into the first amendment to the SAA, under which both parties agreed to conduct additional preclinical research studies. The Company recorded a benefit of $0.4 million, for the year ended December 31, 2024, as a result of finalization of the cost reconciliation. For the years ended December 31, 2023 and 2022, the Company recorded $0.0 and $0.2 million associated with the SAA as research and development expenses, respectively.

WuXi Advanced Therapies, Inc.

In November 2016, the Company entered into a manufacturing services agreement (the "First Wuxi MSA") with WuXi Apptec, Inc. ("WuXi Apptec") pursuant to which WuXi Apptec agreed to provide manufacturing and other services for two cGMP manufacturing suites for clinical manufacturing and related testing services. The First WuXi MSA was amended and restated in December 2017, further amended and restated and assigned to the Company's subsidiary Iovance Biotherapeutics Manufacturing LLC ("Iovance Manufacturing LLC"), and Wuxi Advanced Therapies, Inc. in January 2020, and further amended in November 2020 and December 2021. The First WuXi MSA expired in November 2022.

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In October 2022, Iovance Manufacturing LLC entered into an additional three-year manufacturing and services agreement (the "Second Wuxi MSA") with WuXi Advance Therapies, Inc. and its parent company, WuXi Apptec Co., Ltd (collectively, "WuXi"). Under the Second WuXi MSA, Iovance Manufacturing LLC entered into a statement of work for two cGMP manufacturing suites to be operated by WuXI for Iovance Manufacturing LLC to support clinical and commercial manufacturing and related testing services. The Second WuXi MSA and its related statement of work superseded the statements of work under the First WuXi MSA with respect to manufacturing in the two suites and expire on December 31, 2025. Iovance Manufacturing LLC may unilaterally terminate the statement of work for clinical and commercial manufacturing with written notice of written notice of 6 months in year 3 of the term. The Company recorded costs associated with agreements with WuXi of $25.0 million, $17.3 million, and $14.2 million for the years ended December 31, 2024, 2023, and 2022, respectively, as costs and expenses included in the consolidated statement of operations or as inventory in the consolidated balance sheets.

Cellectis S.A.

In December 2019, the Company entered into a research collaboration and exclusive worldwide license agreement whereby the Company will license gene-editing technology from Cellectis S.A. ("Cellectis"), a clinical-stage biopharmaceutical company, to develop TIL cell therapies that have been genetically edited, including a PD-1 inactivated product that the Company refers to as IOV-4001. Financial terms of the license include annual license payments and development, regulatory and sales milestone payments from the Company to Cellectis, as well as royalty payments based on net sales of TALEN®-modified TIL products. The Company recorded costs associated with the license agreement with Cellectis of $0.4 million for each of the years ended December 31, 2024, 2023, and 2022, respectively, as research and development expense.

Novartis Pharma AG and Related Entities

In January 2020, the Company obtained a license from Novartis Pharma AG ("Novartis") to develop and commercialize an antibody cytokine engrafted protein, which the Company refers to as IOV-3001. Under the agreement, the Company paid an upfront payment to Novartis and may pay future milestones related to initiation of patient dosing in various phases of clinical development for IOV-3001 and approval of the product in the U.S., EU and Japan. Novartis is also entitled to low-to-mid single digit percentage royalties from commercial sales of the product. The Company recorded costs associated with the license agreement from Novartis of $10.0 million as research and development expenses for the year ended December 31, 2020. No expenses were recorded for the years ended December 31, 2024, 2023 and 2022, respectively.

On May 18, 2023, as part of the completion of the Acquisition, the Company inherited two historical asset purchase agreements, one historical master cell bank license and working cell bank transfer agreement and one historical license agreement from Clinigen with Novartis AG, Novartis Pharma AG and Novartis Vaccines and Diagnostics, Inc. pursuant to which, among other things, the Company may be required to make future milestone payments based on net sales (as defined in the relevant underlying agreements) in the U.S. and the rest of world, which includes any and all sales outside of the U.S. The maximum amount of these milestone payments payable under these agreements is $30.0 million upon reaching several certain net sales amounts in the United States and $15.0 million upon reaching several certain net sales amounts in the rest of the world, of which 25% of each milestone payment will be reimbursed by Clinigen by deduction from the deferred consideration due under the Option Agreement in the period such milestone payment is made. To date, the net sales milestones have not been achieved, and, therefore, no payments were made under these agreements for the years ended December 31, 2024 and 2023, respectively.

Boehringer Ingelheim Biopharmaceuticals GmbH

On May 18, 2023 as part of the completion of the Acquisition, the Company inherited a manufacturing and supply agreement from Clinigen with Boehringer Ingelheim Biopharmaceuticals GmbH ("BI") pursuant to which BI will carry out the processing, manufacturing and supply of Proleukin® in unlabeled vials. The term of this agreement is through October 2025, with automatic renewals for a period of two years unless terminated as permitted by the contract. Under this agreement, the Company must purchase a minimum number of vials each year at fixed prices determined by vial batch size. The total estimated purchase obligations under this agreement for the years ending December 31, 2025, 2026 and 2027, are $13.6 million, $7.2 million, and $6.4 million, respectively.

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NOTE 15. LEASES

Operating Leases

The Company leases corporate office space in San Carlos, California, manufacturing, research and development lab facilities and office space in Philadelphia, Pennsylvania, including 136,000 square feet of commercial manufacturing and lab space at the *i*CTC, and research and development lab facilities in Tampa, Florida. The determination whether an arrangement is a lease occurs at inception, and for leases with terms greater than 12 months, the Company records a related right-of-use asset and lease liability at the present value of lease payments over the term. Many leases include fixed rental escalation clauses, renewal options and/or termination options that are factored into the determination of lease payments when appropriate. The Company's leases do not provide an implicit rate, and thus the Company estimated the incremental borrowing rate in calculating the present value of the lease payments.

The Company's leases have remaining lease terms that range from less than one year to approximately 16 years. Some of the Company's leases include one or more options to renew with renewal terms that can extend the lease for additional years, or options to terminate the leases, both at the Company's discretion. The Company's leases may include options to extend or terminate the lease, which is considered in the lease term when it is reasonably certain that the Company will exercise any such options. Lease expense for minimum lease payments is recognized on a straight-line basis based on the fixed components of a lease arrangement.

Variable lease cost is determined based on performance or usage in accordance with the contractual agreements and not based on an index or rate. Such costs that are not fixed in nature are recognized as incurred.

The Company also leases certain furniture and equipment that has a lease term of 12 months or less. Since the lease agreements do not include an option to purchase the underlying asset, the Company elected not to apply the recognition requirements of Topic 842 for short-term leases, however, the lease costs that pertain to the short-term leases are disclosed in the components of lease costs table below.

Relocation of the Headquarters Office Lease

On November 15, 2024, the Company entered into a sublease agreement (the "New Headquarters Lease") to relocate its office within the same building of its former San Carlos headquarters to lease approximately 16,731 square feet office space with the lease term of 24 months. The New Headquarters Lease commenced on December 15, 2024 and includes two options to extend the terms of the lease for 12 months each, exercisable under certain conditions and at a rate increase by 3% from the applicable monthly base rent of approximately $0.1 million. Upon the commencement date, the Company recognized operating lease liabilities and right-of-use assets of $2.3 million.

Simultaneously, the Company entered into an Agreement for Termination of Lease and Voluntary Surrender of Premises with its landlord related to its lease for its then existing and now former headquarters location to surrender 49,918 square feet office and laboratory space and paid an early lease termination payment to its landlord of $0.6 million and $2.5 million of related brokerage fees. In accordance with ASC 842, the termination of this lease resulted in derecognition of right-of-use assets and corresponding lease liabilities of $13.7 million and $22.3 million, respectively, which resulted in a $8.6 million gain, partially offset by the aforementioned lease termination related fees, recorded as interest and other income, net in the consolidated statement of operations for the year ended December 31, 2024.

In addition, as a result of the early termination of the former headquarters lease, the Company impaired approximately $7.4 million of long-lived assets, which included leasehold improvements, and furniture and fixtures, previously funded by the landlord through a tenant improvement allowance for the former corporate headquarters office lease (as discussed further below), and is included in the research and development expenses and selling, general and administrative expenses in the consolidated statement of operations for the year ended December 31, 2024.

Manufacturing Contracts

The Company uses contract manufacturing organizations (collectively the "CMOs" and each a "CMO") to manufacture and supply TILs for clinical and commercial purposes. The CMO contractual obligations consist of the use of manufacturing facilities and minimum fixed commitment fees, such as personnel, general support fees, and minimum production or material fees. In addition to the minimum fixed commitment fees, the CMO contractual obligations include variable costs such as production and material costs in

excess of the minimum quantity specified in each CMO agreement. During the term of each CMO agreement, the Company has access to and control of the use of a dedicated suite in each of the CMOs' facilities for manufacturing activities. The contracts with CMOs generally contain embedded operating leases based on the fact that the suites are used for the Company's production are implicitly identified, are used exclusively by the Company during the contractual term of the arrangements, and the CMOs have no substantive contractual rights to substitute the facilities used by the Company.

Further, the Company controls the use of the facilities by obtaining all of the economic benefits from the use of the facilities and directs the use of the facilities throughout the period of use. The terms of the CMO contracts include options to terminate the lease with advance notice of five to six months. The termination clauses and extension clauses are included in the calculation of the lease term for each of the CMOs when it is reasonably certain that it will not exercise such options.

For contracts with multiple deliverables, Topic 842 requires the Company to first identify a lease deliverable and non-lease deliverable included in the arrangements, and then allocate the fixed contractual consideration to the lease deliverable(s) and the non-lease deliverable(s) on a relative standalone selling price basis to determine the amount of operating lease right-of-use assets and liabilities. The Company identified the use of a dedicated suite as a single lease deliverable, and related labor services as a single non-lease deliverable in each of the CMO arrangements. Judgment is required to determine the relative standalone selling price of each deliverable as the observable standalone selling prices are not readily available. Therefore, management uses estimates and assumptions in determining relative standalone selling price of lease of a suite and labor service using information that includes market and other observable inputs to the extent possible.

The balance sheet classification of the Company's right-of-use asset and lease liabilities was as follows (in thousands):

	December 31, 2024	December 31, 2023
Operating lease right-of-use assets	$ 55,201	$ 62,515
Operating lease liabilities		
Current portion included in current liabilities	12,896	7,777
Long-term portion included in non-current liabilities	44,365	67,085
Total operating lease liabilities	$ 57,261	$ 74,862

The following table summarizes components of lease expenses, which were included in total expenses in the Company's consolidated statements of operations and in inventory in the consolidated balance sheets, and other information related to the Company's operating leases as follows (in thousands, except weighted-average remaining lease terms and discount rates):

	For the Year Ended December 31, 2024	For the Year Ended December 31, 2023
Operating lease cost	$ 16,484	$ 17,786
Variable lease cost	3,995	7,629
Short-term lease cost	431	335
Total lease cost	$ 20,910	$ 25,750
Other information		
Cash paid for amounts included in the measurement of lease liabilities included in cash flows from operations	$ 18,120	$ 16,871
Right-of-use assets obtained from entering new leases	$ 2,306	$ 177
Increase in right-of-use assets from lease modifications	$ 818	$ 1,033
Weighted-average remaining lease terms (years)	12.83	13.09
Weighted-average discount rates	7.9 %	7.4 %

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As of December 31, 2024, maturities of the Company's operating lease liabilities were as follows (in thousands):

Year Ending December 31,	Facility leases	CMO embedded leases	Total
2025	$ 6,039	$ 10,910	$ 16,949
2026	5,452	—	5,452
2027	4,307	—	4,307
2028	4,393	—	4,393
2029	4,481	—	4,481
Thereafter	57,496	—	57,496
Total lease payments	$ 82,168	$ 10,910	$ 93,078
Less: Present value adjustment	(35,179)	(638)	(35,817)
Operating lease liabilities	$ 46,989	$ 10,272	$ 57,261

For its former corporate headquarters office, the lease agreement included a tenant improvement allowance of up to $8.2 million that was utilized to fund the acquisition of certain assets in the former corporate headquarters. In the years ended December 31, 2022, and 2021, the Company received reimbursements associated with this tenant improvement allowance of $6.4 million and $1.6 million, respectively. As the tenant improvement allowance was fully utilized, no additional reimbursements were received subsequent to December 31, 2022.

NOTE 16. LEGAL PROCEEDINGS

Shumacher Derivative Lawsuit. On December 11, 2020, a purported stockholder derivative complaint was filed by plaintiff Leo Shumacher against the Company, as nominal defendant, and then current directors, as defendants, in the Court of Chancery in the State of Delaware (the "Court of Chancery"). The complaint alleges breach of fiduciary duty and a claim for unjust enrichment in connection with alleged excessive compensation of certain non-executive directors of the Company and seeks unspecified damages on behalf of the Company. The parties agreed to a proposed settlement, which was submitted to the Court of Chancery on June 15, 2022. After a hearing on November 17, 2022, the Court of Chancery required the parties to take additional steps before it would approve the settlement. The Company, as nominal defendant, and its current directors, as defendants, answered the complaint on February 3, 2023. The parties agreed to a revised proposed settlement, which was submitted to the Court of Chancery on March 12, 2024. On July 17, 2024, the Court of Chancery declined to approve the settlement. The case will proceed to discovery. On January 17, 2025, a non-party stockholder (The Paul Berger Revocable Trust), which objected to the revised proposed settlement, filed a derivative complaint and letter with the Court suggesting consolidation. The Company intends to vigorously defend against these complaints.

Ohio Laborers Derivative Lawsuit. On September 11, 2024, a purported stockholder derivative complaint was filed by plaintiff Northern California Pipe Trades Trust Fund against the Company, as nominal defendant, and certain directors, as defendants, in the Court of Chancery. The complaint alleges breach of fiduciary duty in connection with the February 2024 underwritten public offering of 23,014,000 shares of the Company's common stock. On November 22, 2024, the defendants filed a motion to dismiss the complaint. On December 5, 2024, the plaintiff filed an amended complaint adding an additional director defendant. On January 10, 2025, defendants filed a motion to dismiss the amended complaint. On February 3, 2025, the Court approved substitution of Laborers' District Council and Contractors' Pension Fund of Ohio ("Ohio Laborers") as representative plaintiff. The Company intends to vigorously defend against this complaint.

Solomon Capital, LLC. On April 8, 2016, a lawsuit (the "First Solomon Suit") titled *Solomon Capital, LLC, Solomon Capital 401(K) Trust, Solomon Sharbat and Shelhav Raff v. Lion Biotechnologies, Inc.* was filed by Solomon Capital, LLC, Solomon Capital 401(k) Trust, Solomon Sharbat and Shelhav Raff ("Solomon Plaintiffs") against the Company in the Supreme Court of the State of New York, County of New York (index no. 651881/2016) (the "court"). The Solomon Plaintiffs allege that, between June and November 2012, they provided the Company $0.1 million and that they advanced and paid on behalf of the Company an additional $0.2 million.

The complaint further alleges that the Company agreed to (i) provide them with promissory notes totaling $0.2 million, plus interest, (ii) issue a total of 1,110 shares to the Solomon Plaintiffs (after the 1-for-100 reverse split of the Company's common stock effected in March 2013) (the "Equity Claim"), and (iii) allow the Solomon Plaintiffs to convert the foregoing funds into its securities in

the next financing of the Company on the same terms offered to other investors, which Solomon Plaintiffs allege, should have given them the right to convert their advances and payments into shares of the Company's common stock in the restructuring that took effect in May 2013. Based on the foregoing, the Solomon Plaintiffs allege causes for breach of contract and unjust enrichment and demand judgment against the Company in an unspecified amount exceeding $1.5 million, plus interest. On June 3, 2016, the Company filed an answer and counterclaims in the lawsuits. The Company has asserted counterclaims for fraudulent inducement, fraudulent misrepresentation, fraudulent concealment, breach of fiduciary duty, and breach of contract, alleging principally that the counterclaim defendants misrepresented their qualifications and failed to disclose that Solomon Sharbat was the subject of an investigation by the Financial Industry Regulatory Authority ("FINRA") that resulted in the loss of his FINRA license.

In its counterclaims, the Company is seeking damages in an amount exceeding $0.5 million and an order rescinding any and all agreements that the Solomon Plaintiffs contend entitled them to obtain shares of Company stock. On May 12, 2020, the court granted the Company's motion for summary judgment limiting the Solomon Plaintiffs' damages for the Equity Claim to $47,420. The Solomon Plaintiffs filed a notice of appeal of this summary judgment on June 9, 2020. On July 2, 2020, the court granted the Company's motion to dismiss the First Solomon Suit for want of prosecution. On January 4, 2021, the court granted the Solomon Plaintiffs motion for reconsideration and reinstituted the case. On January 15, 2021, the Company filed a notice of appeal of the court's grant of the Solomon Plaintiffs motion for reconsideration. On May 11, 2021, the Appellate Division upheld the court's grant of the Solomon Plaintiffs' motion for reconsideration of the dismissal of the First Solomon Suit for want of prosecution. On January 22, 2025, Solomon Sharbat and Shelhav Raff (through new legal counsel) filed a motion for leave to file an amended complaint in the First Solomon Suit.

On September 27, 2019, the Solomon Plaintiffs filed a new lawsuit (through new legal counsel) (the "Second Solomon Suit") titled *Solomon Capital, LLC, Solomon Capital 401(K) Trust, Solomon Sharbat and Shelhav Raff v. Iovance Biotherapeutics, Inc., f/k/a/ Lion Biotechnologies Inc. f/k/a/ Genesis Biopharma Inc., and Manish Singh* in the Supreme Court of the State of New York, County of New York (index no. 655668/2019). In the Second Solomon Suit, the Solomon Plaintiffs allege that they are third party beneficiaries of a "finder's fee agreement" that prior management entered into with a third party unlicensed entity in 2012 in connection with seeking financing, that an agreement or understanding existed between the Company and the plaintiffs that the plaintiffs would be paid fees and commissions (in cash and stock) if they obtained financing for the Company, and that they directly and indirectly introduced investors to the Company who invested in the Company, or were willing to invest in the Company. Finally, the Solomon Plaintiffs allege that they were promised a license to use the Company's technology in Israel. The plaintiffs claim that the Company breached the foregoing understandings, promises and agreements and, as a result, they are entitled to certain damages. The Solomon Plaintiffs also allege that Manish Singh, the Company's former Chief Executive Officer, committed fraud and took shares belonging to them. On February 18, 2020, the Company filed a removal petition and removed the Second Solomon Suit to the U.S. District Court for the Southern District of New York (the "District Court"), where the case has been assigned case no. 1:20-cv-1391. On May 22, 2020, the Company moved to dismiss the Second Solomon Suit for lack of personal jurisdiction. On March 26, 2021, the District Court denied the Company's motion to dismiss for lack of personal jurisdiction. The Company filed a response to the complaint in the Second Solomon Suit on April 30, 2021. On May 26, 2021, the Company and Singh filed motions for judgment on the pleadings with respect to the second and third claims asserted against the Company and all claims asserted against Singh, respectively, in the Second Solomon Suit. On January 5, 2022, the District Court granted the Company's motions for judgment on the pleadings, dismissing the second and third claims against the Company and dismissing all claims against Singh. On January 4, 2023, the District Court granted in part the Company's motion for sanctions against the Solomon Plaintiffs for violating Rule 11 of the Federal Rules of Civil Procedure, in a decision and order that dismissed the Solomon Plaintiffs' first claim against the Company, denied the Solomon Plaintiffs' motion for leave to amend the complaint, and ordered the Solomon Plaintiffs to pay the Company's attorneys' fees incurred in connection with the Rule 11 motion. Following the District Court's decision and order on the Rule 11 motion, only the Solomon Plaintiffs' fifth and sixth claims, for unjust enrichment and indemnification, respectively, remained pending against the Company. On October 26, 2023, the District Court granted the Company's motion for summary judgment and dismissed the Solomon Plaintiffs' fifth and sixth claims. On October 27, 2023, the District Court entered judgment for the Company and closed the Second Solomon Suit. On November 10, 2023, the Company filed a motion for attorneys' fees as the prevailing party in the action. On December 1, 2023, the Solomon Plaintiffs filed a notice of appeal to the U.S. Court of Appeals for the Second Circuit, appealing the District Court's orders (a) granting the motions for judgment on the pleadings filed on behalf of Singh and the Company, (b) granting the Company's Rule 11 motion, (c) denying the Solomon Plaintiffs' motions to compel discovery and re-open discovery, and (d) granting the Company's summary judgment motion. On December 22, 2023, the Company filed a motion for an order requiring the Solomon Plaintiffs to post an appeal bond, to ensure payment of the Company's appellate fees and costs should the Company prevail on the appeal. On May 9, 2024, the District Court issued an order granting the Company's motions for attorneys' fees and for an appeal bond. On June 28, 2024, the Company filed motions to dismiss the appeal on the grounds that the Solomon Plaintiffs (a) do not have an opening brief on file, which the Second Circuit Court denied, and (b) have not filed an appeal bond. The District Court entered judgment in favor of the Company on September 23, 2024, including

a monetary award pursuant to the District Court's Rule 11 order and orders for attorneys' fees and costs. On October 9, 2024, the Second Circuit Court stated that it will dismiss the appeal unless the Solomon Plaintiffs post the appeal bond by October 23, 2024. The Solomon Plaintiffs then moved for an extension of time until November 23, 2024 to post the appeal bond. The Company filed an opposition to the motion. The Second Circuit Court denied the Solomon Plaintiffs' motion for an extension of time on November 7, 2024, and dismissed the appeal on November 8, 2024.

The Company intends to vigorously defend these complaints and pursue its counterclaims, as applicable. At the current stage of the litigation, in both the First Solomon Suit and the Second Solomon Suit, it is not possible to estimate the amount or range of possible loss that might result from an adverse judgment or a settlement of these matters.

The Company has been and may continue to be involved, from time to time, in legal proceedings and claims arising in the ordinary course of its business. Such matters are subject to many uncertainties and outcomes are not predictable with assurance. The Company accrues amounts, to the extent they can be reasonably estimated, that it believes are adequate to address any liabilities related to legal proceedings and other loss contingencies that it believes will result in a probable loss. While there can be no assurances as to the ultimate outcome of any legal proceeding or other loss contingency involving the Company, management does not believe any pending matter will be resolved in a manner that would have a material adverse effect on its financial position, results of operations or cash flows.

Portions of this Exhibit have been redacted because they are both (i) not material and (ii) would be competitively harmful if publicly disclosed. Information that was omitted has been noted in this document with a placeholder identified by the mark "[***]".

Amendment #3

Cooperative Research and Development Agreement # 02734

IC Principal Investigator: Steven A. Rosenberg, M.D., Ph.D.
Collaborator: Iovance Biotherapeutics Inc.

This Amendment #3 ("this amendment" or "this Amendment #3") to that certain Cooperative Research and Development Agreement by and between the National Cancer Institute and Genesis Biopharma, Inc. ("Genesis"), the predecessor in interest of Lion Biotechnologies, Inc. ("Lion"), the predecessor in interest of Iovance Biotherapeutics, Inc. ("Iovance"), dated August 5, 2011 (the "CRADA"), as amended, is entered into by and between the National Cancer Institute and Iovance and made effective as of the date of signature of the last Party to sign hereto (the "Effective Date"). The term Collaborator refers to Iovance, Lion, and Genesis collectively, or individually as the context requires, and the Parties acknowledge that Iovance is the successor-in- interest to the CRADA and its prior amendments, which are hereby ratified by the Parties in all respects.

WHEREAS, the National Cancer Institute and Lion, the predecessor in interest of Iovance, entered into that certain Amendment #1 to the CRADA dated January 22, 2015 ("Amendment #1");

WHEREAS, the National Cancer Institute and Lion entered into that certain Amendment #2 to the CRADA dated August 18, 2016 ("Amendment #2"); and

WHEREAS, the National Cancer Institute and Iovance now wish to further amend the CRADA to extend the term of the CRADA and make certain additional changes to the CRADA as set forth herein;

NOW, THEREFORE, the Parties amend the CRADA as follows. All capitalized terms not otherwise defined herein are as defined in the CRADA. This amendment is effective as of the date of final signature to this amendment. Upon execution, NCI and Collaborator will each retain a copy of this amendment.

1. Purpose. The purpose of this amendment is to change certain terms of the CRADA. These changes are reflected below, and except for these changes and those of Amendment #1 and Amendment #2, all other provisions of the CRADA remain in full force and effect.

2. The Collaborator has changed its name from Lion Biotechnologies, Inc. to Iovance Biotherapeutics, Inc. Also, the Collaborator CRADA Principal Investigator is changed to Fred Vogt, Ph.D., J.D. The Cover Page, Contacts Information Page and the Summary Page of the CRADA are updated accordingly.

3. Upon final signature of this amendment, the term of the CRADA is retroactively extended for three (3) additional years from August 05, 2021 to August 05, 2024. The Term of CRADA on the Summary Page of the CRADA is updated to "Thirteen (13) years from the Effective Date" in accordance with such extension.

4. The title of the CRADA is modified to: "The Development and Evaluation of the NCI Proprietary Adoptive Cell Transfer Immunotherapy Using Unmodified Tumor-Infiltrating Lymphocytes in Patients with Metastatic Melanoma, Bladder, Lung, Breast, and HPV- associated Cancers, Utilizing Iovance Biotherapeutics, Inc.'s Development Expertise in Adoptive Cell Transfer Immunotherapy".

5. Appendix A to the CRADA is deleted in its entirety and replaced with the revised Appendix A attached as Addendum 1 to this Amendment #3.

6. . Appendix B to the CRADA is deleted in its entirety and replaced with the revised Appendix B attached as Addendum 2 to this Amendment #3.

7. The Contacts Information Page of the CRADA is deleted in its entirety and replaced with the revised Contacts Information Page attached as Addendum 3 to this Amendment #3.

8. The paragraph in Article 2 of the CRADA that contains the definition of "**Adverse Event**" is deleted in its entirety and replaced with the following:

> "**Adverse Event**" or "**AE**" means any untoward medical occurrence associated with the use of a Test Article in humans, whether or not considered related to the Test Article (21 C.F.R §§ 312.32, 308.3; see also E6(R2): Good Clinical Practice: Integrated Addendum to International Council for Harmonisation (ICH) E6(R1) Guidance for Industry, 83 Federal Register 8882 (2018) .

9. Article 3.7.2 of the CRADA is deleted in its entirety and replaced to read as follows:

> 3.7.2 When ICD files the IND, Collaborator agrees to provide ICD background data and information necessary to support the IND in electronic Common Technical Document (eCTD) format. Collaborator further agrees to provide a letter of cross-reference to all pertinent regulatory filings sponsored by Collaborator. Collaborator's employees will be reasonably available to respond to inquiries from the FDA regarding information and data contained in the Collaborator's IND, DMF, other filings, or other information and data provided to ICD by the Collaborator pursuant to this Article 3.

10. Article 3.10 of the CRADA is deleted in its entirety and replaced with:

> 3.10 **Monitoring**. Subject to the restrictions in Article 8.1 (the Rights of Access and Publications section) and Article 14 (the Certificate of Confidentiality Obligations section), and with reasonable advance notice and at reasonable times, ICD will permit Collaborator or its designee(s) to audit the clinical monitoring performed by the ICD, as well as to audit source documents containing Raw Data, to the extent necessary to verify compliance with the Protocol(s) and E6(R2) Good Clinical Practice: Integrated

Addendum to International Council for Harmonisation (ICH) E6(R1) Guidance for Industry, 83 Federal Register 8882 (2018).

11. Article 3.11 of the CRADA is deleted in its entirety and replaced to read as follows:

3.11: **FDA Meetings/Communications**. All formal meetings with the FDA concerning any clinical trial within the scope of the Research Plan will be discussed by Collaborator and ICD in advance. Each Party reserves the right to take part in setting the agenda for, to attend, and participate in these meetings, as appropriate.

12. Article 4.1 of the CRADA is deleted in its entirety and replaced to read as follows:

4.1 Interim Research and Development Reports. The CRADA PIs shall exchange information in writing every three (3) months during the course of this CRADA. This exchange of information may be accomplished through meeting minutes, detailed correspondence, circulation of draft manuscripts, Steering Committee reports, copies of Annual Reports, and any other reports updating the progress of the CRADA research. However, the Parties must exchange updated Investigator's Brochure, formulation and preclinical data, and toxicology findings, as they become available. These data and documents will be provided in eCTD format. The Investigator's Brochure will be reviewed at least annually and updated if necessary. In addition, all CRADA research meetings between the Collaborator and consultants, and the ICD scientific and clinical employees will be organized in advance through the offices of ICD, Principal Investigator, and the Collaborator's Chief Executive Officer. All meetings, telephone and video conferences will be held at mutually agreeable times and dates to allow all relevant Collaborator and consultants, and ICD employees to participate.

13. Article 4.4 of the CRADA is deleted in its entirety and replaced to read as follows:

4.4 Safety Reports. In accordance with FDA requirements ICD, as the IND Sponsor, will establish and maintain records and submit safety reports to the FDA, as required by 21 C.F.R. § 312.32 and 21 C.F.R. 812.150(b)(1), or other applicable Federal regulations. In the conduct of research under this CRADA, the Parties will comply with specific ICD guidelines and policies for reporting ADEs and AEs. ICD must provide Collaborator with copies of all Safety Reports concurrently with their submission to the FDA, and with any other information affecting the safety of Human Subjects in research conducted under this CRADA.

14. A new Article 4.6 is added to the CRADA as follows:

14.6. During and for a period of two years after the completion of a Protocol, the Collaborator shall promptly provide to the ICD any information that Collaborator has reasonably determined could directly affect the health or safety of past or current Human Subjects or influence the conduct of the Protocol. Such information may arise from any source, for example, Safety Reports provided to the FDA, study results, information in site monitoring reports or data safety monitoring committee reports. ICD shall be free to communicate the relevant safety information to each Human Subject and the IRB.

15. Article 13.14 of the CRADA is deleted in its entirety and replaced to read as follows:

13.14 **Survivability**. The provisions of Articles 3.3, 3.4, 3.8, 4.2, 4.3, 4.6, 5.3, 5.4, 6.19.2, 10.3-10.6, 11.1, 11.2, 12.1-12.3, 13.1-13.3, 13.7, 13.10, 13.14, and 14 will survive the expiration or early termination of this CRADA.

16. Add the following new Article 14:

Article 14: Certificate of Confidentiality.

The CRADA Data collected under a Protocol conducted under this CRADA are covered under a Certificate of Confidentiality that has been issued by the NIH pursuant to Section 301(d) of the Public Health Service Act (42 U.S.C. 241(d)). Under this Certificate of Confidentiality, the Collaborator may not:

a) disclose or provide, in any Federal, State, or local civil, criminal, administrative, legislative, or other proceeding, the name of such individual or any such information, document, or biospecimen that contains identifiable, sensitive information about the individual and that was created or compiled for purposes of the research, unless such disclosure or use is made with the consent of the individual to whom the information, document, or biospecimen pertains; or

b) disclose or provide to any other person not connected with the research the name of such an individual or any information, document, or biospecimen that contains identifiable, sensitive information about such an individual and that was created or compiled for purposes of the research;

provided that Collaborator will be permitted to disclose the information described in the points set forth above as follows:

a) if required by Federal, State, or local laws (e.g., as required by the Federal Food, Drug, and Cosmetic Act, or state laws requiring the reporting of communicable diseases to State and local health departments), excluding instances of disclosure in any Federal, State, or local civil, criminal, administrative, legislative, or other proceeding;

b) if necessary for the medical treatment of the individual to whom the information, document, or biospecimen pertains and made with the consent of such individual;

c) if made with the consent of the individual to whom the information, document, or biospecimen pertains; or

d) if made for the purposes of other scientific research that is in compliance with applicable Federal regulations governing the protection of human subjects in research.

Prior to making any permitted disclosures, Collaborator will ensure that that any recipient of data protected by a Certificate of Confidentiality agrees to comply with the Certificate.

SIGNATURES BEGIN ON THE NEXT PAGE

By the signatures of their respective and duly authorized representatives affixed below, the Parties have caused this Amendment #3 to enter into full force and effect.

Accepted and Agreed to:

For the National Cancer Institute:

/s/ James H. Doroshow, M.D.
James H. Doroshow, M.D.
Deputy Director for Clinical and Translational Research, NCI

8/23/2021
Date

For the Collaborator:

/s/ Frederick G. Vogt
Fred Vogt, Ph.D., J.D.
Interim CEO and General Counsel
Iovance Biotherapeutics, Inc.

9/7/2021
Date

ADDENDUM-1 TO AMENDMENT #3

PUBLIC HEALTH SERVICE
COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT
FOR INTRAMURAL-PHS CLINICAL RESEARCH

APPENDIX A

RESEARCH PLAN

Title of CRADA
Development and Evaluation of the NCI Proprietary Adoptive Cell Transfer Immunotherapy Using Unmodified Tumor-Infiltrating Lymphocytes in Patients with Metastatic Melanoma, Bladder, Lung, Breast, and HPV-associated Cancers, Utilizing Iovance Biotherapeutics, Inc.'s Development Expertise in Adoptive Cell Transfer Immunotherapy

[***]

ADDENDUM-2 TO AMENDMENT #3

PUBLIC HEALTH SERVICE
COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT
FOR INTRAMURAL-PHS CLINICAL RESEARCH

APPENDIX B

STAFFING, FUNDING AND MATERIALS/EQUIPMENT CONTRIBUTIONS OF THE PARTIES

[***]

ADDENDUM-3 TO AMENDMENT #3

CONTACTS INFORMATION PAGES

[***]

Portions of this Exhibit have been redacted because they are both (i) not material and (ii) would be competitively harmful if publicly disclosed. Information that was omitted has been noted in this document with a placeholder identified by the mark "[***]".

Amendment #4

Cooperative Research and Development Agreement # 02734

IC Principal Investigator: Steven A. Rosenberg, M.D., Ph.D.
Collaborator: Iovance Biotherapeutics Inc.

This Amendment #4 ("this amendment" or "this Amendment #4") to Cooperative Research and Development Agreement #02734 by and between the National Cancer Institute and Iovance Biotherapeutics Inc. ("Iovance"), dated August 5, 2011 (the "CRADA"), as amended, is entered into by and between the National Cancer Institute and Iovance and made effective as of the date of signature of the last Party to sign hereto (the "Amendment #4 Effective Date").

WHEREAS the National Cancer Institute and Iovance now wish to amend the CRADA to extend the term of the CRADA and make certain additional changes to the CRADA as set forth herein;

NOW, THEREFORE, the Parties amend the CRADA as follows. All capitalized terms not otherwise defined herein are as defined in the CRADA. Upon execution, NCI and Collaborator will each retain a copy of this amendment.

1. Purpose. The purpose of this amendment is to change certain terms of the CRADA. These changes are reflected below, and except for these changes and those of Amendment #1, Amendment #2, and Amendment #3, all other provisions of the CRADA remain in full force and effect.

2. Upon final signature of this amendment, the term of the CRADA is extended for five (5) additional years from August 05, 2024, to August 05, 2029. The Term of CRADA on the Summary Page of the CRADA is updated to "Eighteen (18) years from the Effective Date" in accordance with such extension.

3. The title of the CRADA is modified to: "Development and Evaluation of the NCI Proprietary Adoptive Cell Transfer Immunotherapy Using Tumor-Infiltrating Lymphocytes in Patients with Solid Epithelial Cancer, Utilizing Iovance Biotherapeutics, Inc.'s Development and Commercial Expertise in Adoptive Cell Transfer Immunotherapy".

4. Appendix A to the CRADA is deleted in its entirety and replaced with the revised Appendix A attached as Addendum 1 to this Amendment #4.

5. Appendix B to the CRADA is deleted in its entirety and replaced with the revised Appendix B attached as Addendum 2 to this Amendment #4.

6. Article 8.2.1 of the CRADA is deleted in its entirety and replaced with the following:

8.2.1 CRADA Data
Collaborator and ICD will use reasonable efforts to keep CRADA Data confidential until published or otherwise disclosed, in accordance with Article 8.7, or until corresponding Patent Applications are filed. To the extent permitted by law, each Party will have the right to use any and all CRADA Data in and for any regulatory filing by or on behalf of the Party. Collaborator acknowledges that the basic research mission of PHS includes proper data management and appropriate data sharing as described in the "NIH Policy for Data Management and Sharing" (DMS), January 2023, available at https://grants.nih.gov/grants/guide/notice-files/NOT-OD-21-013.html. Upon completion of data collection and analysis and, as appropriate, after filing for intellectual property protection, IC will disclose CRADA Data in fulfillment of its data sharing obligations under the DMS._

SIGNATURES BEGIN ON THE NEXT PAGE

By the signatures of their respective and duly authorized representatives affixed below, the Parties have caused this Amendment #4 to enter into full force and effect.

Accepted and Agreed to:

For the National Cancer Institute:

/s/ D. R. Lowry
Douglas R. Lowy, M.D.
Deputy Director, NCI

7/23/2024
Date

For the Collaborator:

/s/ Frederick G. Vogt
Fred Vogt, Ph.D., J.D.
Interim CEO and General Counsel
Iovance Biotherapeutics, Inc.

7/26/2024
Date

ADDENDUM-1 TO AMENDMENT #4

PUBLIC HEALTH SERVICE
COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT
FOR INTRAMURAL-PHS CLINICAL RESEARCH

APPENDIX A

RESEARCH PLAN

Title of CRADA

Development and Evaluation of the NCI Proprietary Adoptive Cell Transfer Immunotherapy Using Tumor-Infiltrating Lymphocytes in Patients with Solid Epithelial Cancer, Utilizing Iovance Biotherapeutics, Inc.'s Development and Commercial Expertise in Adoptive Cell Transfer Immunotherapy

[***]

ADDENDUM-2 TO AMENDMENT #4

PUBLIC HEALTH SERVICE
COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT
FOR INTRAMURAL-PHS CLINICAL RESEARCH

APPENDIX B

STAFFING, FUNDING AND MATERIALS/EQUIPMENT CONTRIBUTIONS
OF THE PARTIES

[***]

Portions of this Exhibit have been redacted because they are both (i) not material and (ii) would be competitively harmful if publicly disclosed or constitutes personal information. Information that was omitted has been noted in this document with a placeholder identified by the mark "[***]".

EXECUTIVE EMPLOYMENT AGREEMENT

THIS EXECUTIVE EMPLOYMENT AGREEMENT (the "**Agreement**") is entered into as of January 10, 2022 by and between Iovance Biotherapeutics, Inc., a Delaware corporation (the "**Company**"), and Raj K. Puri, M.D., Ph.D. ("**Employee**") (either party individually, a "**Party**"; collectively, the "**Parties**").

WHEREAS, the Company desires to employ Employee to serve in the position as set forth below;

WHEREAS, the Parties desire to enter into this Agreement to set forth the terms and conditions of Employee's employment by the Company and to address certain matters related to Employee's employment with the Company;

WHEREAS, both the Company and the Employee have read and understood the terms and provisions set forth in this Agreement, and Employee acknowledges Employee has been afforded a reasonable opportunity to review this Agreement with Employee's legal counsel to the extent desired;

NOW, THEREFORE, in consideration of the foregoing, the promises and obligations set forth below and for other good and valuable consideration, the receipt of which is hereby acknowledged by the Parties, the Company and Employee agree and intend to be legally bound, as follows:

1. Effective Date. Effective April 11, 2022 (the "**Effective Date**"), the Company hereby employs Employee, and Employee hereby accepts such employment, upon the terms and conditions set forth herein. The Employee has the right to withdraw his acceptance of the Agreement at any time prior to the Effective Date by delivering written notice to the Company. If Employee is able to begin employment effective March 14, 2022, then that date shall be deemed the Effective Date, and Employee shall receive an additional payment of $100,000 on the 1-year anniversary of the Effective Date if he remains employed by the Company on such anniversary (subject to payroll taxes) (the "**Early Effective Date Signing Bonus Payment**").

2. Position and Duties.

2.1 Position. The Company agrees to employ Employee in the position of Executive Vice President, Regulatory Strategy and Translational Medicine reporting to the Chief Executive Officer. Employee shall have the duties and responsibilities as determined from time to time by the Company, including but not limited to the Chief Executive Officer. Employee shall perform faithfully and diligently such duties as are reasonable and customary for Employee's position, as well as such other duties as the Company and/or Chief Executive Officer shall reasonably assign from time to time. Employee shall perform his duties in his home office, subject to customary travel as reasonably required.

2.2 Best Efforts/Full-Time.

2.2(a) Employee understands and agrees that Employee will faithfully devote Employee's best efforts and substantially all of his time during business hours to the faithful and loyal performance of his job duties to the Company (except for permitted vacation periods and reasonable periods of illness or other incapacity). Employee will abide by all policies duly adopted by the Company, as well as all applicable federal, state and local laws, regulations or ordinances. Employee will act in a manner that Employee reasonably believes to be in the best interest of the Company at all times. Employee further understands and agrees that Employee has a fiduciary duty of loyalty to the Company to the extent provided by applicable law and that Employee will take no action which materially harms the business, business interests, or reputation of the Company.

2.2(b) Employee agrees that he shall not, directly or indirectly, (i) engage or participate in any outside activity that would, or may be perceived to, conflict with the best interests of the Company or Employee's duties to the Company, or (ii) provide services to or invest in any corporation or entity that competes or intends to compete with the business of the Company.

2.2(c) Employee agrees that, during the term of this Agreement, Employee shall work exclusively for the Company. Consequently, Employee agrees to not accept employment, of any kind, from any person or entity other than the Company, and to not perform duties or render services to any person or entity other than the Company. Notwithstanding the foregoing, nothing herein shall prohibit Employee from (i) serving as a member of the board of directors of an entity engaged solely in charitable activities or community affairs, provided that, such activity shall be limited by Employee so as not to interfere with the performance of Employee's duties and responsibilities hereunder; (ii) owning, as a passive investment, less than 1% of capital stock of any corporation listed on the national securities exchange or a publicly traded over-the-counter market; or (iii) engaging in any other manner of employment, consulting or other business activity with the written consent of the Company, the Chief Executive Officer, or as approved by the Company's Board of Directors or a committee thereof (collectively, the "**Board**").

3. At-Will Employment. The term of this Agreement will be for a period of three (3) years from the Effective Date (the "**Initial Term**"), and the Agreement shall automatically renew for successive one-year periods unless terminated by either party by written notice within thirty (30) days of such renewal. Notwithstanding the foregoing, Employee's employment with the Company will be "at-will". As a result, Employee is free to resign at any time, for any or no reason, as Employee deems appropriate. The Company will have a similar right and may terminate Employee's employment at any time, with or without cause. Employee's and the Company's respective rights and obligations at the time of termination are outlined below in Section 6 of this Agreement.

4. Compensation.

4.1 Base Salary. As compensation for the performance of all duties to be performed by Employee hereunder, the Company shall pay to Employee a base salary of $550,000 per year, less applicable deductions for state and federal withholding tax, social security and all

other employment taxes and authorized payroll deductions, payable on a prorated basis as it is earned, in accordance with the normal payroll practices of the Company (the "**Base Salary**").

4.2 Signing Bonus. As a signing bonus, Employee shall receive a payment of $250,000 (subject to payroll taxes) (the "**Signing Bonus Payment**"). The payment of the Signing Bonus Payment will be paid on the Company's first regular payroll date after the Effective Date. The Signing Bonus Payment shall be considered earned six (6) months following the Effective Date or, if applicable, the date on which Employee's employment is terminated by the Company without Cause (as defined herein), due to death or Disability (as defined herein), or by Employee for Good Reason (as defined herein) prior to six (6) months from the Effective Date. If Employee's employment is terminated by the Company for Cause or by Employee without Good Reason (including by Employee's resignation) prior to or on the date that is six (6) months from the Effective Date (the "**Separation Date**"), he shall, within ten (10) days after the Separation Date, repay to the Company a portion of the total value of the Signing Bonus Payment (before the deduction of any applicable taxes) in accordance with the table below based on his Separation Date.

Months from the Effective Date through the Separation Date	**Portion of total value of Signing Bonus Payments repayable by Employee to**
< 6 months	50%
> 6 months	0%

For avoidance of doubt, the Signing Bonus Payment is an advance only and shall not be deemed earned unless the foregoing requirements for the Signing Bonus Payment are satisfied.

4.3 Biologics License Applications ("BLA") Approval Bonus. In recognition of a successful first approval from the Food and Drug Administration of a Company-sponsored Biologics License Agreement ("**BLA Approval**"), Employee shall receive a payment of $100,000 (subject to payroll taxes) (the "**BLA Approval Bonus Payment**"). The payment of the BLA Approval Bonus Payment will be paid on the Company's first regular payroll date following the approval.

4.4 Equity Awards. As of the Effective Date, Employee shall receive (a) 325,000 stock options for purchase and (b) a grant of 200,000 restricted stock units ("**RSUs**") equal to an aggregate of 200,000 shares of the Company's common stock ((a) and (b) collectively, the "**Equity Awards**") pursuant to the Company's 2021 Inducement Plan (the "**Equity Inducement Plan**"). The Equity Awards shall be granted on the effective date (referred to as the "**Date of Grant**"). The stock options will have an exercise price equal to the closing trading price of the common stock on the Date of Grant. The Equity Awards shall be pursuant to the Company's standard equity award documents and the Company's Equity Inducement Plan then in effect. Provided that Employee is still employed with the Company on the following dates, the foregoing Equity Awards will vest in installments as follows: (i) one-third of the shares shall vest on one year anniversary of the Effective Date; and (ii) the remaining Equity Awards shall vest as to one-twelfth of the shares at the end of each quarter over the next two years, commencing with the first quarter following the first anniversary of the Effective Date. Upon the termination of Employee's employment with the Company, except as provided herein, the unvested Equity Awards will be forfeited and returned to the Company. Notwithstanding the foregoing, 100,000 of such 200,000

RSUs shall only vest upon BLA Approval and shall vest immediately upon BLA Approval (the "**Bonus Equity Grant**").

4.5 Incentive Compensation. Employee will be eligible to participate in the Company's annual incentive compensation program ("**Incentive Plan**") applicable to executive employees, as approved by the Board (the year in which the program is implemented, the **"Plan Year**"), such participation to begin on the Effective Date. The Incentive Compensation shall be paid in accordance with the terms and conditions outlined in the Incentive Plan and based upon the achievement of certain goals, objectives, and other metrics as decided by the Board. The maximum potential amount payable to Employee under the Incentive Plan, if earned, shall be 40% of Employee's Base Salary earned during the applicable calendar year. Compensation under the Incentive Plan ("**Incentive Compensation**") will be conditioned on the satisfaction of individual and Company objectives, as established in writing by the Company. No Incentive Compensation will be payable to Employee to the extent Employee is not employed on the Incentive Compensation payment date. The payment of any Incentive Compensation pursuant to this Section 4.5 is in the sole discretion of the Board, in accordance with the Incentive Plan, and shall be made in accordance with the normal payroll practices of the Company, less required deductions for state and federal withholding tax, social security and all other employment taxes and authorized payroll deductions.

4.6 Performance Review. The Company will periodically review Employee's performance on no less than an annual basis and may increase (but not decrease) Employee's salary or other compensation, as it deems appropriate in its sole and absolute discretion and with any necessary Board approval requirements.

4.7 Customary Fringe Benefits. Employee understands and agrees that certain employee benefits may be provided to the Employee by the Company incident to the Employee's employment. Employee will be eligible for all customary and usual fringe benefits generally available to executive employees and all other employees of the Company subject to the terms and conditions of the Company's benefit plan documents. Employee understands and agrees that any employee benefits provided to the Employee by the Company incident to the Employee's employment (other than Base Salary, Incentive Compensation and any applicable Severance Payment) are provided solely at the discretion of the Company and may be modified, suspended or revoked at any time, without notice or the consent of the Employee, unless otherwise provided by law. Moreover, to the extent that these benefits are provided pursuant to policies or plan documents adopted by the Company, Employee acknowledges and agrees that these benefits shall be governed by the applicable employment policies or plan documents. The benefits to be provided to Employee shall include group health insurances and participation in a 401(k) plan. Employee will be eligible to receive paid time off benefits in the form of five (5) weeks of paid vacation, plus sick days and holidays. The amount, eligibility and extent of these benefits shall be governed by the Company's applicable policy in effect and as amended from time to time and in compliance with applicable law.

4.8 Business Expenses. Employee will be reimbursed for all reasonable and necessary out- of-pocket business expenses incurred in the performance of Employee's duties on behalf of the Company, including travel-related expenses. To obtain reimbursement, Employee shall provide the Company with reasonable documentation and receipts establishing the amount

and nature of such expenses. Employee shall comply with such reasonable budget limitations and pre-approval, approval, and reporting requirements with respect to expenses as the Company may establish from time to time. Notwithstanding the foregoing, Employee shall be reimbursed for travel expenses for travel between his home and the Company's headquarters incurred during a single 30-day period beginning on the date that he is given written notice by the Company that he is required to be on-site at the Company's headquarters, but after the completion of such 30-day period, Employee shall not be reimbursed from travel expenses for travel between his home and the Company's headquarters.

4.9 Indemnification/D&O Insurance. During his employment and for so long thereafter as Employee may reasonably be subject to any claim or liability arising from or relating to his employment with the Company or its affiliates, the Company shall (a) indemnify, defend and hold Employee harmless to the full extent provided in Article IX of the Company's Bylaws and (b) maintain, at its sole expense, director and officer liability insurance covering Employee in Employee's capacity as an officer or employee of the Company or its affiliates.

5. Confidentiality and Proprietary Agreement. Employee agrees to abide by the Company's Employee Proprietary Information and Inventions Agreement (the "**EPIIA**"), which Employee has signed and is incorporated herein by reference.

6. Termination of Employee's Employment.

6.1 Termination for Cause by the Company. The Company may terminate Employee's employment immediately at any time and without notice for "Cause." For purposes of this Agreement, "**Cause**" shall mean (i) a material breach by Employee of this Agreement or the EPIIA; (ii) the death of Employee or his disability resulting in his inability to perform his reasonable duties assigned hereunder for a period of 180 days; (iii) Employee's theft, dishonesty, or falsification of any Company documents or records; (iv) Employee's improper use or disclosure of the Company's confidential or proprietary information; (v) Employee's conviction (including any plea of guilty or nolo contendere) of any criminal act which impairs Employee's ability to perform his duties hereunder or which in the Board's judgment may materially damage the business or reputation of the Company; (vi) Employee's failure or refusal to comply with reasonable and lawful Company policies and procedures; or (vii) Employee's failure and/or inability to comply with or meet the requirements of any performance improvement plan reasonably provided to Employee by the Chief Executive Officer and/or the Board; provided, however, that prior to termination for cause arising under clause (i), Employee shall have a period of ten days after written notice from the Company to cure the event or grounds constituting such cause. Any notice of termination provided by Company to Employee under this Section 6.1 shall identify the events or conduct constituting the grounds for termination with sufficient specificity so as to enable Employee to take steps to cure, if curable, the same if such default is a material breach by Employee of this Agreement or the EPIIA. In the event Employee's employment is terminated in accordance with this subsection 6.1, Employee shall be entitled to receive only the Base Salary, prorated to the date of termination. All other obligations of the Company to Employee pursuant to this Agreement will be automatically terminated and completely extinguished.

6.2 Termination Without Cause by The Company/Separation Package. The Company may terminate Employee's employment under this Agreement without Cause (as

defined in Section 6.1 above) at any time on thirty (30) days' advance written notice to Employee. In the event of such termination, Employee will receive Employee's Base Salary through the date of termination. Upon such termination of employment without Cause, Employee will be eligible to receive a "**Severance Payment**" equivalent to (a) the greater of (i) twelve (12) months of Employee's then Base Salary or (ii) the remaining Initial Term of this Agreement of Employee's then Base Salary, payable in full within thirty (30) days after termination, and (b) immediate vesting of any unvested portion of the Equity Awards (other than the Bonus Equity Grant); provided that Employee first satisfies the Severance Conditions. For purposes of this Agreement, the "**Severance Conditions**" are defined as (1) Employee's execution and non-revocation of a full general release, and such release has become effective in accordance with its terms prior to the 30th day following the termination date; and (2) Employee's reaffirmation of Employee's commitment to comply, and actual compliance, with all surviving provisions of this Agreement, as well as any other agreements concerning his employment with and separation from employment, including without limitation, and confidentiality and proprietary information agreements. Following payment of the Severance Payment, Base Salary, and any benefits required to be paid in accordance with applicable benefit plans through the date of termination, all other obligations of the Company to Employee pursuant to this Agreement will be automatically terminated and completely extinguished.

6.3 Termination Upon a Change of Control. For purposes of this Agreement, "**Change of Control**" shall mean: (1) a merger or consolidation or the sale or exchange by the stockholders of the Company of capital stock of the Company, where the stockholders of the Company immediately before such transaction do not obtain or retain, directly or indirectly, at least a majority of the beneficial interest in the voting stock or other voting equity of the surviving or acquiring corporation or other surviving or acquiring entity, in substantially the same proportion as before such transaction; (2) any transaction or series of related transactions to which the Company is a party in which in excess of fifty percent (50%) of the Company's voting power is transferred; or (3) the sale or exchange of all or substantially all of the Company's assets (other than a sale or transfer to a subsidiary of the Company as defined in section 424(f) of the Internal Revenue Code of 1986, as amended (the "**Code**")), where the stockholders of the Company immediately before such sale or exchange do not obtain or retain, directly or indirectly, at least a majority of the beneficial interest in the voting stock or other voting equity of the corporation or other entity acquiring the Company's assets, in substantially the same proportion as before such transaction; provided, however, that a Change of Control shall not be deemed to have occurred pursuant to any transaction or series of transactions relating to a public or private financing or refinancing, the principal purpose of which is to raise money for the Company's working capital or capital expenditures and which does not result in a change in a majority of the members of the Board. If, upon the consummation of a Change of Control, the Employee's employment is terminated by the Company for any reason other than Cause, then the Employee shall be entitled to receive the following compensation, provided that Employee first satisfies the Severance Conditions: (i) the Severance Payment set forth in Section 6.2 and (ii) any then time-based unvested equity awards (including the Equity Awards) granted to Employee by the Company to the extent then outstanding at the time of such termination will become fully vested on the last day of Employee's employment with the Company (other than the Bonus Equity Grant), and Employee shall have three months from the date of termination within which to exercise his vested equity. Following payment of the Severance Payment, Base Salary, and any benefits required to be paid in accordance with applicable benefit plans through the date of termination, all other obligations

of the Company to Employee pursuant to this Agreement will be automatically terminated and completely extinguished.

6.4 Resignation. Employee shall have the right to terminate this Agreement at any time, for any reason, by providing the Company with thirty (30) days written notice, provided, however, that subsequent to Employee's resignation, Employee shall be required to comply with all surviving provisions of this Agreement. Employee shall not be entitled to any Severance Pay. Employee will only be entitled to receive Employee's Base Salary earned up to the date of termination. Notwithstanding the foregoing, Employee has the right upon thirty (30) days written notice to the Company to terminate Employee's employment for "**Good Reason**" due to occurrence of any of the following: (i) a material adverse change in Employee's title, duties or responsibilities; (ii) any failure by the Company to pay, or any reduction by Company of, the base salary or any failure by Company to pay any non-discretionary Incentive Compensation to which Employee is entitled pursuant to Section 4; (iii) the Company creates a work environment designed to constructively terminate Employee or to unlawfully harass or retaliate against Employee; or (iv) a Change of Control occurs in which the Company is not the surviving entity and the surviving entity fails to offer Employee an executive position at a compensation level at least equal to Employee's then compensation level under this Agreement. In the event that Employee terminates his employment for Good Reason, then Employee shall be entitled to receive the Base Salary, and Severance Payment as if Employee were terminated by the Company without Cause under Section 6.2, subject to Employee's compliance with all of the Severance Conditions.

6.5 Application of Section 409A.

6.5(a) Notwithstanding anything set forth in this Agreement to the contrary, no amount payable pursuant to this Agreement which constitutes a "deferral of compensation" within the meaning of the Treasury Regulations issued pursuant to Section 409A of the Code (the "**Section 409A Regulations**") shall be paid unless and until Employee has incurred a "separation from service" within the meaning of the Section 409A Regulations.

6.5(b) The Company intends that income provided to Employee pursuant to this Agreement will not be subject to taxation under Section 409A of the Code. The provisions of this Agreement shall be interpreted and construed in favor of satisfying any applicable requirements of Section 409A of the Code. However, Company does not guarantee any particular tax effect for income provided to Employee pursuant to this Agreement. In any event, except for Company's responsibility to withhold applicable income and employment taxes from compensation paid or provided to Employee, the Company shall not be responsible for the payment of any applicable taxes on compensation paid or provided to Employee pursuant to this Agreement.

6.5(c) Furthermore, to the extent that Employee is a "specified employee" within the meaning of the Section 409A Regulations as of the date of Employee's separation from service, no amount that constitutes a deferral of compensation which is payable on account of Employee's separation from service shall be paid to Employee before the date (the "**Delayed Payment Date**") which is first day of the seventh month after the date of Employee's separation from service or, if earlier, the date of Employee's death following such separation from service. All such amounts that would, but for this Section, become payable prior to the Delayed Payment Date will be accumulated and paid on the Delayed Payment Date.

6.5(d) Notwithstanding anything herein to the contrary, the reimbursement of expenses or in-kind benefits provided pursuant to this Agreement shall be subject to the following conditions: (i) the expenses eligible for reimbursement or in-kind benefits in one taxable year shall not affect the expenses eligible for reimbursement or in-kind benefits in any other taxable year; (ii) the reimbursement of eligible expenses or in-kind benefits shall be made promptly, subject to Company's applicable policies, but in no event later than the end of the year after the year in which such expense was incurred; and (iii) the right to reimbursement or in-kind benefits shall not be subject to liquidation or exchange for another benefit.

6.5(e) For purposes of Section 409A of the Code, the right to a series of installment payments under this Agreement shall be treated as a right to a series of separate payments.

7. Employment and Post-Employment Covenants.

7.1 Non-Solicitation. Employee agrees that during a period of 12 months following the termination of the Employee's employment (the "**Restrictive Period**"), Employee shall not (a) solicit or in any manner encourage, either directly or indirectly, any existing employee of the Company to leave the Company for any reason; nor will he interfere in any other manner with the employment or business relationships at the time existing between the Company and its current or prospective employees or consultants; or (b) induce or attempt to induce any customer, supplier, distributor, licensee or other business affiliate of the Company to cease doing business with the Company or in any way interfere with the existing business relationship between any customer, supplier, distributor, licensee or other business affiliate and the Company.

7.2 Non-Disparagement. Employee agrees, at all times following the Effective Date, not to, directly or indirectly, on his behalf or on behalf of any other person or entity, (a) take any action which is intended, or could reasonably be expected, to harm, disparage, defame, slander, or lead to unwanted or unfavorable publicity for the Company, its subsidiaries or any of their respective affiliates, or its or their respective equity holders, directors, officers, members, managers, partners, employees, representatives or agents, or otherwise take any action which could reasonably be expected to detrimentally affect the reputation, image, relationships or public view of any such person or entity or (b) attempt to do any of the foregoing, or assist, entice, induce or encourage any other person or entity to do or attempt to do any activity which, were it done by Employee, would violate any provision of this Section 7.2; provided, however, that Employee shall not be prohibited by this Section 7.2 from making truthful statements (i) when required by order of a court or other body of competent jurisdiction or as required by law or (ii) solely within the context of seeking judicial enforcement of legal or contractual rights against a person or entity.

7.3 Remedies. Employee acknowledges that the duration of the Restrictive Period is fair is reasonably required for the protection of the Company's business interests, including its goodwill. The Employee (a) acknowledges that his failure to comply with any requirement of this Section 7 this Agreement will cause the Company irreparable harm and that a remedy at law for such a failure would be an inadequate remedy; and (b) consents to the Company's obtaining from a court having jurisdiction specific performance, an injunction, a restraining order or any other equitable relief in order to enforce any such provision. The right to obtain such equitable relief shall be in addition to, and not in lieu of, any other remedy to which the Company is entitled under applicable law (including, but not limited to, monetary damages).

8. General Provisions.

8.1 Successors and Assigns. The rights and obligations of the Company under this Agreement shall inure to the benefit of and shall be binding upon the successors and assigns of the Company. Employee shall not be entitled to assign any of Employee's rights or obligations under this Agreement.

8.2 Waiver. Either party's failure to enforce any provision of this Agreement shall not in any way be construed as a waiver of any such provision or prevent that party thereafter from enforcing each and every other provision of this Agreement.

8.3 Attorney's Fees. In the event of any dispute or claim relating to or arising out of Employee's employment relationship with Company, this Agreement, or the termination of Employee's employment with Company for any reason, the prevailing party in any such dispute or claim shall be entitled to recover its reasonable attorney's fees and costs.

8.4 Severability. In the event any provision of this Agreement is found to be unenforceable by an arbitrator or court of competent jurisdiction, such provision shall be deemed modified to the extent necessary to allow enforceability of the provision as so limited, it being intended that the parties shall receive the benefit contemplated herein to the fullest extent permitted by law. If a deemed modification is not satisfactory in the judgment of such arbitrator or court, the unenforceable provision shall be deemed deleted, and the validity and enforceability of the remaining provisions shall not be affected thereby.

8.5 Interpretation; Construction. The headings set forth in this Agreement are for convenience only and shall not be used in interpreting this Agreement. Employee has participated in the negotiation of the terms of this Agreement. Furthermore, Employee acknowledges that Employee has had an opportunity to review and revise the Agreement and have it reviewed by legal counsel, if desired, and, therefore, the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement.

8.6 Governing Law. This Agreement will be governed by and construed in accordance with the laws of the United States and the internal laws of the State of Maryland.

8.7 Notices. Any notice required or permitted by this Agreement shall be in writing and shall be delivered as follows with notice deemed given as indicated: (a) by personal delivery when delivered personally; (b) by overnight courier upon written verification of receipt; (c) by telecopy, facsimile transmission, or electronic transmission such as e-mail, upon acknowledgment of receipt of electronic transmission; or (d) by certified or registered mail, return receipt requested, upon verification of receipt. Notice shall be sent to the addresses set forth below each party's signature, or such other address as either party may specify in writing.

8.8 Entire Agreement. This Agreement constitutes the entire agreement between the Parties relating to this subject matter and supersedes all prior or simultaneous representations, discussions, negotiations, and agreements, whether written or oral. This Agreement may be amended or modified only with the written consent of Employee and the

Company. No oral waiver, amendment or modification will be effective under any circumstances whatsoever.

[Execution Page Follows]

THE PARTIES TO THIS AGREEMENT HAVE READ THE FOREGOING AGREEMENT AND FULLY UNDERSTAND EACH AND EVERY PROVISION CONTAINED HEREIN. WHEREFORE, THE PARTIES HAVE EXECUTED THIS AGREEMENT AS SHOWN BELOW.

EMPLOYEE:

/s/ Raj Puri
Raj Puri, M.D., Ph.D.

[***]

COMPANY:

Iovance Biotherapeutics, Inc.

By:/s/ Frederick G. Vogt
Frederick Vogt, Ph.D., J.D.
Interim Chief Executive Officer
999 Skyway Road, Suite 150
San Carlos, CA 94070

Portions of this Exhibit have been redacted because they are both (i) not material and (ii) would be competitively harmful if publicly disclosed or constitutes personal information. Information that was omitted has been noted in this document with a placeholder identified by the mark "[***]".

EXECUTIVE EMPLOYMENT AGREEMENT

THIS EXECUTIVE EMPLOYMENT AGREEMENT (the "**Agreement**") is entered into as of January 25, 2025 by and between Iovance Biotherapeutics, Inc., a Delaware corporation (the "**Company**"), and Daniel Gordon Kirby ("**Employee**") (either party individually, a "**Party**"; collectively, the "**Parties**").

WHEREAS, the Company desires to employ Employee to serve in the position as set forth below;

WHEREAS, the Parties desire to enter into this Agreement to set forth the terms and conditions of Employee's employment by the Company and to address certain matters related to Employee's employment with the Company;

WHEREAS, both the Company and the Employee have read and understood the terms and provisions set forth in this Agreement, and Employee acknowledges Employee has been afforded a reasonable opportunity to review this Agreement with Employee's legal counsel to the extent desired;

NOW, THEREFORE, in consideration of the foregoing, the promises and obligations set forth below and for other good and valuable consideration, the receipt of which is hereby acknowledged by the Parties, the Company and Employee agree and intend to be legally bound, as follows:

1. Effective Date. Effective February 10, 2025 (the "**Effective Date**"), the Company hereby employs Employee, and Employee hereby accepts such employment, upon the terms and conditions set forth herein. The Employee has the right to withdraw his acceptance of the Agreement at any time prior to the Effective Date by delivering written notice to the Company.

2. Position and Duties.

2.1 Position. The Company agrees to employ Employee in the position of Chief Commercial Officer reporting to the Chief Executive Officer. Employee shall have the duties and responsibilities as determined from time to time by the Company, including but not limited to the Chief Executive Officer. Employee shall perform faithfully and diligently such duties as are reasonable and customary for Employee's position, as well as such other duties as the Company and/or Chief Executive Officer shall reasonably assign from time to time. Employee shall perform his duties in his home office in Mercer Island, Washington, subject to customary travel as reasonably required.

2.2 Best Efforts/Full-Time.

2.2(a) Employee understands and agrees that Employee will faithfully devote Employee's best efforts and substantially all of his time during business hours to the faithful and loyal performance of his job duties to the Company (except for permitted vacation periods and reasonable periods of illness or other incapacity). Employee will abide by all policies duly adopted by the Company, as well as all applicable federal, state and local laws, regulations or ordinances. Employee will act in a manner that Employee reasonably believes to be in the best interest of the Company at all times. Employee further understands and agrees that Employee has a fiduciary duty of loyalty to the Company to the extent provided by applicable law and that Employee will take no action which materially harms the business, business interests, or reputation of the Company.

2.2(b) Employee agrees that he shall not, directly or indirectly, (i) engage or participate in any outside activity that would, or may be perceived to, conflict with the best interests of the Company or Employee's duties to the Company, or (ii) provide services to or invest in any corporation or entity that competes or intends to compete with the business of the Company.

2.2(c) Employee agrees that, during the term of this Agreement, Employee shall work exclusively for the Company. Consequently, Employee agrees to not accept employment, of any kind, from any person or entity other than the Company, and to not perform duties or render services to any person or entity other than the Company, with the exception of consulting work not to exceed ten hours per month in the field of cell therapies outside of tumor infiltrating lymphocytes and not competitive with the Company's business, conducted on the Employee's own time, outside of the Company's regular business hours, and without interference in the performance of Employee's obligations to the Company. Notwithstanding the foregoing, nothing herein shall prohibit Employee from (i) serving as a member of the board of directors of an entity engaged solely in charitable activities or community affairs, provided that, such activity shall be limited by Employee so as not to interfere with the performance of Employee's duties and responsibilities hereunder; (ii) owning, as a passive investment, less than 1% of capital stock of any corporation listed on the national securities exchange or a publicly traded over-the-counter market; or (iii) engaging in any other manner of employment, consulting or other business activity with the written consent of the Company, the Chief Executive Officer, or as approved by the Company's Board of Directors or a committee thereof (collectively, the "**Board**").

3. At-Will Employment. Employee's employment with the Company will be "at-will". As a result, Employee is free to resign at any time, for any or no reason, as Employee deems appropriate. The Company will have a similar right and may terminate Employee's employment at any time, with or without cause. Employee's and the Company's respective rights and obligations at the time of termination are outlined below in Section 6 of this Agreement.

4. Compensation.

4.1 Base Salary. As compensation for the performance of all duties to be performed by Employee hereunder, the Company shall pay to Employee a base salary of $570,000 per year, less applicable deductions for state and federal withholding tax, social security and all other employment taxes and authorized payroll deductions, payable on a prorated basis as it is earned, in accordance with the normal payroll practices of the Company (the "**Base Salary**"). Signing Bonus. As a signing bonus, Employee shall receive a payment of $100,000 (subject to

payroll taxes) (the "**Signing Bonus Payment**"). The payment of the Signing Bonus Payment will be paid on the Company's first regular payroll date after the Effective Date. The Signing Bonus Payment shall be considered fully earned twenty-four (24) months following the Effective Date or, if applicable, the date on which Employee's employment is terminated by the Company without Cause (as defined herein), due to death or Disability (as defined herein), or by Employee for Good Reason (as defined herein) prior to twenty-four (24) months from the Effective Date. If Employee's employment is terminated by the Company for Cause or by Employee without Good Reason (including by Employee's resignation) prior to or on the date that is twenty-four (24) months from the Effective Date (the "**Separation Date**"), he shall, within ten (10) days after the Separation Date, repay to the Company some or all of the Signing Payment (before the deduction of any applicable taxes) in accordance with the table below based on his Separation Date.

Months from the Effective Date through the Separation Date	**Portion of total value of Signing Bonus Payments repayable by Employee to Company**
< 18 months	100%
18 months through 24 months	50%
> 24 months	0%

For avoidance of doubt, the Signing Bonus Payment is an advance only and shall not be deemed earned unless the foregoing requirements for the Signing Bonus Payment are satisfied.

4.2 Equity Awards. As of the Effective Date, Employee shall receive (a) 35,000 stock options ("**Options**") for purchase, (b) a grant of 120,000 restricted stock units ("**RSUs**"), (a) and (b) being equal to an aggregate of 155,000 shares of the Company's common stock, and (c) a grant of a maximum of 150,000 performance stock units ("**PSUs**") earned and vested based on the performance metrics set forth by the Company on Exhibit A, with and any unearned shares to be canceled ((a), (b) and (c) collectively, the "**Equity Awards**") pursuant to the Company's 2021 Inducement Plan (the "**Equity Inducement Plan**"). The Equity Awards shall be granted on the Effective Date (referred to as the "**Date of Grant**"). The stock options will have an exercise price equal to the closing trading price of the common stock on the Date of Grant. The Equity Awards shall be pursuant to the Company's standard equity award documents and the Company's Equity Inducement Plan then in effect. Provided that Employee is still employed with the Company on the following dates, (x) the foregoing Options and RSUs will vest in installments as follows: (i) one-third of the shares shall vest on one year anniversary of the Effective Date; and (ii) the remaining Equity Awards shall vest as to one-twelfth of the shares at the end of each quarter over the next two years, commencing with the first quarter following the first anniversary of the Effective Date and (y) the foregoing PSUs will be earned or canceled based on annual revenue performance as disclosed on the Company's Annual Report on Form 10-K ("**Form 10-K**") for the Company's 2025 fiscal year, and such earned PSUs will vest on the date that the Company publicly announces its 2025 financial results by filing its Form 10-K with the U.S. Securities and Exchange Commission. Upon the termination of Employee's employment with the Company, except as provided herein, the unvested Equity Awards will be forfeited and returned to the Company.

4.3 Incentive Compensation. Employee will be eligible to participate in the Company's annual incentive compensation program ("**Incentive Plan**") applicable to executive employees, as approved by the Board (the year in which the program is implemented, the "**Plan Year**"), such participation to begin on the Effective Date. The Incentive Compensation shall be

paid in accordance with the terms and conditions outlined in the Incentive Plan and based upon the achievement of certain goals, objectives, and other metrics as decided by the Board. The target potential amount payable to Employee under the Incentive Plan, if earned, shall be 45% of Employee's Base Salary earned during the applicable calendar year. Compensation under the Incentive Plan ("**Incentive Compensation**") will be conditioned on the satisfaction of individual and Company objectives, as established in writing by the Company. No Incentive Compensation will be payable to Employee to the extent Employee is not employed on the Incentive Compensation payment date. The payment of any Incentive Compensation pursuant to this Section 4.4 is in the sole discretion of the Board, in accordance with the Incentive Plan, and shall be made in accordance with the normal payroll practices of the Company, less required deductions for state and federal withholding tax, social security and all other employment taxes and authorized payroll deductions.

4.4 Performance Review. The Company will periodically review Employee's performance on no less than an annual basis and may increase (but not decrease) Employee's salary or other compensation, as it deems appropriate in its sole and absolute discretion and with any necessary Board approval requirements.

4.5 Customary Fringe Benefits. Employee understands and agrees that certain employee benefits may be provided to the Employee by the Company incident to the Employee's employment. Employee will be eligible for all customary and usual fringe benefits generally available to executive employees and all other employees of the Company subject to the terms and conditions of the Company's benefit plan documents. Employee understands and agrees that any employee benefits provided to the Employee by the Company incident to the Employee's employment (other than Base Salary, Incentive Compensation and any applicable Severance Payment) are provided solely at the discretion of the Company and may be modified, suspended or revoked at any time, without notice or the consent of the Employee, unless otherwise provided by law. Moreover, to the extent that these benefits are provided pursuant to policies or plan documents adopted by the Company, Employee acknowledges and agrees that these benefits shall be governed by the applicable employment policies or plan documents. The benefits to be provided to Employee shall include group health insurances and participation in a 401(k) plan. Employee will be eligible to receive paid time off benefits in the form of vacation, sick days and holidays. The amount, eligibility and extent of these benefits shall be governed by the Company's applicable policy documented in the Employee Handbook in effect and as amended from time to time and in compliance with applicable law.

4.6 Business Expenses. Employee will be reimbursed for all reasonable and necessary out- of-pocket business expenses incurred in the performance of Employee's duties on behalf of the Company, including travel-related expenses. To obtain reimbursement, Employee shall provide the Company with reasonable documentation and receipts establishing the amount and nature of such expenses. Employee shall comply with such reasonable budget limitations and pre-approval, approval, and reporting requirements with respect to expenses as the Company may establish from time to time.

4.7 Indemnification/D&O Insurance. During his employment and for so long thereafter as Employee may reasonably be subject to any claim or liability arising from or relating to his employment with the Company or its affiliates, the Company shall (a) indemnify, defend

and hold Employee harmless to the full extent provided in Article IX of the Company's Bylaws and (b) maintain, at its sole expense, director and officer liability insurance covering Employee in Employee's capacity as an officer or employee of the Company or its affiliates.

5. Confidentiality and Proprietary Agreement. Employee agrees to abide by the Company's Employee Proprietary Information and Inventions Agreement (the "**EPIIA**"), which Employee has signed and is incorporated herein by reference.

6. Termination of Employee's Employment.

6.1 Termination for Cause by the Company. The Company may terminate Employee's employment immediately at any time and without notice for "Cause." For purposes of this Agreement, "**Cause**" shall mean (i) a material breach by Employee of this Agreement or the EPIIA; (ii) the death of Employee or his disability resulting in his inability to perform his reasonable duties assigned hereunder for a period of 180 days; (iii) Employee's theft, dishonesty, or falsification of any Company documents or records; (iv) Employee's improper use or disclosure of the Company's confidential or proprietary information; (v) Employee's conviction (including any plea of guilty or nolo contendere) of any criminal act which impairs Employee's ability to perform his duties hereunder or which in the Board's judgment may materially damage the business or reputation of the Company; (vi) Employee's failure or refusal to comply with reasonable and lawful Company policies and procedures; or (vii) Employee's failure and/or inability to comply with or meet the requirements of any performance improvement plan reasonably provided to Employee by the Chief Executive Officer and/or the Board; provided, however, that prior to termination for cause arising under clause (i), Employee shall have a period of ten days after written notice from the Company to cure the event or grounds constituting such cause. Any notice of termination provided by Company to Employee under this Section 6.1 shall identify the events or conduct constituting the grounds for termination with sufficient specificity so as to enable Employee to take steps to cure, if curable, the same if such default is a material breach by Employee of this Agreement or the EPIIA. In the event Employee's employment is terminated in accordance with this subsection 6.1, Employee shall be entitled to receive only the Base Salary, prorated to the date of termination. All other obligations of the Company to Employee pursuant to this Agreement will be automatically terminated and completely extinguished.

6.2 Termination Without Cause by The Company/Separation Package. The Company may terminate Employee's employment under this Agreement without Cause (as defined in Section 6.1 above) at any time on thirty (30) days' advance written notice to Employee. In the event of such termination, Employee will receive Employee's Base Salary through the date of termination. Upon such termination of employment without Cause, Employee will be eligible to receive a "**Severance Payment**" equivalent to (a) the greater of (i) six (6) months of Employee's then Base Salary or (ii) the remaining Initial Term of this Agreement of Employee's then Base Salary, payable in full within thirty (30) days after termination, and (b) immediate vesting of any unvested portion of the Equity Awards; provided that Employee first satisfies the Severance Conditions. For purposes of this Agreement, the "**Severance Conditions**" are defined as (1) Employee's execution and non-revocation of a full general release, and such release has become effective in accordance with its terms prior to the 30th day following the termination date; and (2) Employee's reaffirmation of Employee's commitment to comply, and actual compliance, with all surviving provisions of this Agreement, as well as any other agreements concerning his

employment with and separation from employment, including without limitation, and confidentiality and proprietary information agreements. Following payment of the Severance Payment, Base Salary, and any benefits required to be paid in accordance with applicable benefit plans through the date of termination, all other obligations of the Company to Employee pursuant to this Agreement will be automatically terminated and completely extinguished.

6.3 Termination Upon a Change of Control. For purposes of this Agreement, "**Change of Control**" shall mean: (1) a merger or consolidation or the sale or exchange by the stockholders of the Company of capital stock of the Company, where the stockholders of the Company immediately before such transaction do not obtain or retain, directly or indirectly, at least a majority of the beneficial interest in the voting stock or other voting equity of the surviving or acquiring corporation or other surviving or acquiring entity, in substantially the same proportion as before such transaction; (2) any transaction or series of related transactions to which the Company is a party in which in excess of fifty percent (50%) of the Company's voting power is transferred; or (3) the sale or exchange of all or substantially all of the Company's assets (other than a sale or transfer to a subsidiary of the Company as defined in section 424(f) of the Internal Revenue Code of 1986, as amended (the "**Code**")), where the stockholders of the Company immediately before such sale or exchange do not obtain or retain, directly or indirectly, at least a majority of the beneficial interest in the voting stock or other voting equity of the corporation or other entity acquiring the Company's assets, in substantially the same proportion as before such transaction; provided, however, that a Change of Control shall not be deemed to have occurred pursuant to any transaction or series of transactions relating to a public or private financing or refinancing, the principal purpose of which is to raise money for the Company's working capital or capital expenditures and which does not result in a change in a majority of the members of the Board. If, upon the consummation of a Change of Control, the Employee's employment is terminated by the Company for any reason other than Cause, then the Employee shall be entitled to receive the following compensation, provided that Employee first satisfies the Severance Conditions: (i) the Severance Payment set forth in Section 6.2 and (ii) any then unvested equity awards (including the Equity Awards) granted to Employee by the Company to the extent then outstanding at the time of such termination will become fully vested on the last day of Employee's employment with the Company, and Employee shall have three months from the date of termination within which to exercise his vested equity. Following payment of the Severance Payment, Base Salary, and any benefits required to be paid in accordance with applicable benefit plans through the date of termination, all other obligations of the Company to Employee pursuant to this Agreement will be automatically terminated and completely extinguished.

6.4 Resignation. Employee shall have the right to terminate this Agreement at any time, for any reason, by providing the Company with thirty (30) days written notice, provided, however, that subsequent to Employee's resignation, Employee shall be required to comply with all surviving provisions of this Agreement. Employee shall not be entitled to any Severance Pay. Employee will only be entitled to receive Employee's Base Salary earned up to the date of termination. Notwithstanding the foregoing, Employee has the right to terminate Employee's employment for "**Good Reason**" due to occurrence of any of the following: (i) a material adverse change in Employee's title, duties or responsibilities; (ii) any material reduction by the Company of, or any failure by the Company to pay, the base salary or the percentage of non-discretionary Incentive Compensation which Employee may be eligible to earn pursuant to Section 4.4; or (iii) a Change of Control occurs in which the Company is not the surviving entity and the surviving

entity fails to offer Employee an executive position at a compensation level at least equal to Employee's then compensation level under this Agreement, provided, however, that the actions in (i) through (iii) above will not be considered Good Reason unless Employee describes the basis for the occurrence of the Good Reason event in reasonable detail in a written notice provided to the Company within ninety (90) days of Employee's knowledge of the actions giving rise to the Good Reason, the Company has failed to cure such actions within thirty (30) days of receiving such written notice, and Employee terminates employment for Good Reason not later than thirty (30) days following the last day of the applicable cure period. In the event that Employee terminates his employment for Good Reason, then Employee shall be entitled to receive the Base Salary and Severance Payment as if Employee were terminated by the Company without Cause under Section 6.2, subject to Employee's compliance with all of the Severance Conditions.

6.5 Application of Section 409A.

6.5(a) Notwithstanding anything set forth in this Agreement to the contrary, no amount payable pursuant to this Agreement which constitutes a "deferral of compensation" within the meaning of the Treasury Regulations issued pursuant to Section 409A of the Code (the "**Section 409A Regulations**") shall be paid unless and until Employee has incurred a "separation from service" within the meaning of the Section 409A Regulations. To the extent any amounts payable under this Agreement upon Employee's separation from service are treated as a deferral of compensation subject to Section 409A of the Code and the period during which Employee may review and execute a release of claims begins in one taxable year and ends in a subsequent taxable year, such amounts will not be paid or commence until the second taxable year.

6.5(b) The Company intends that income provided to Employee pursuant to this Agreement will not be subject to taxation under Section 409A of the Code. The provisions of this Agreement shall be interpreted and construed in favor of satisfying any applicable requirements of Section 409A of the Code. However, Company does not guarantee any particular tax effect for income provided to Employee pursuant to this Agreement. In any event, except for Company's responsibility to withhold applicable income and employment taxes from compensation paid or provided to Employee, the Company shall not be responsible for the payment of any applicable taxes on compensation paid or provided to Employee pursuant to this Agreement.

6.5(c) Furthermore, to the extent that Employee is a "specified employee" within the meaning of the Section 409A Regulations as of the date of Employee's separation from service, no amount that constitutes a deferral of compensation which is payable on account of Employee's separation from service shall be paid to Employee before the date (the "**Delayed Payment Date**") which is first day of the seventh month after the date of Employee's separation from service or, if earlier, the date of Employee's death following such separation from service. All such amounts that would, but for this Section, become payable prior to the Delayed Payment Date will be accumulated and paid on the Delayed Payment Date.

6.5(d) Notwithstanding anything herein to the contrary, the reimbursement of expenses or in-kind benefits provided pursuant to this Agreement shall be subject to the following conditions: (i) the expenses eligible for reimbursement or in-kind benefits in one taxable year shall not affect the expenses eligible for reimbursement or in-kind benefits in any other

taxable year; (ii) the reimbursement of eligible expenses or in-kind benefits shall be made promptly, subject to Company's applicable policies, but in no event later than the end of the year after the year in which such expense was incurred; and (iii) the right to reimbursement or in-kind benefits shall not be subject to liquidation or exchange for another benefit.

6.5(e) For purposes of Section 409A of the Code, the right to a series of installment payments under this Agreement shall be treated as a right to a series of separate payments.

7. Employment and Post-Employment Covenants.

7.1 Non-Disparagement. Employee agrees, at all times following the Effective Date, not to, directly or indirectly, on his behalf or on behalf of any other person or entity, (a) take any action which is intended, or could reasonably be expected, to harm, disparage, defame, slander, or lead to unwanted or unfavorable publicity for the Company, its subsidiaries or any of their respective affiliates, or its or their respective equity holders, directors, officers, members, managers, partners, employees, representatives or agents, or otherwise take any action which could reasonably be expected to detrimentally affect the reputation, image, relationships or public view of any such person or entity or (b) attempt to do any of the foregoing, or assist, entice, induce or encourage any other person or entity to do or attempt to do any activity which, were it done by Employee, would violate any provision of this Section 7.1; provided, however, that Employee shall not be prohibited by this Section 7.1 from making truthful statements (i) when required by order of a court or other body of competent jurisdiction or as required by law or (ii) solely within the context of seeking judicial enforcement of legal or contractual rights against a person or entity.

7.2 Remedies. Employee acknowledges that the duration of the Restrictive Period is fair is reasonably required for the protection of the Company's business interests, including its goodwill. The Employee (a) acknowledges that his failure to comply with any requirement of this Section 7 this Agreement will cause the Company irreparable harm and that a remedy at law for such a failure would be an inadequate remedy; and (b) consents to the Company's obtaining from a court having jurisdiction specific performance, an injunction, a restraining order or any other equitable relief in order to enforce any such provision. The right to obtain such equitable relief shall be in addition to, and not in lieu of, any other remedy to which the Company is entitled under applicable law (including, but not limited to, monetary damages).

8. General Provisions.

8.1 Successors and Assigns. The rights and obligations of the Company under this Agreement shall inure to the benefit of and shall be binding upon the successors and assigns of the Company. Employee shall not be entitled to assign any of Employee's rights or obligations under this Agreement.

8.2 Waiver. Either party's failure to enforce any provision of this Agreement shall not in any way be construed as a waiver of any such provision or prevent that party thereafter from enforcing each and every other provision of this Agreement.

8.3 Attorney's Fees. In the event of any dispute or claim relating to or arising out of Employee's employment relationship with Company, this Agreement, or the termination of

Employee's employment with Company for any reason, the prevailing party in any such dispute or claim shall be entitled to recover its reasonable attorney's fees and costs.

8.4 Severability. In the event any provision of this Agreement is found to be unenforceable by an arbitrator or court of competent jurisdiction, such provision shall be deemed modified to the extent necessary to allow enforceability of the provision as so limited, it being intended that the parties shall receive the benefit contemplated herein to the fullest extent permitted by law. If a deemed modification is not satisfactory in the judgment of such arbitrator or court, the unenforceable provision shall be deemed deleted, and the validity and enforceability of the remaining provisions shall not be affected thereby.

8.5 Interpretation; Construction. The headings set forth in this Agreement are for convenience only and shall not be used in interpreting this Agreement. Employee has participated in the negotiation of the terms of this Agreement. Furthermore, Employee acknowledges that Employee has had an opportunity to review and revise the Agreement and have it reviewed by legal counsel, if desired, and, therefore, the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement.

8.6 Governing Law. This Agreement will be governed by and construed in accordance with the laws of the United States and the internal laws of the State of Washington.

8.7 Notices. Any notice required or permitted by this Agreement shall be in writing and shall be delivered as follows with notice deemed given as indicated: (a) by personal delivery when delivered personally; (b) by overnight courier upon written verification of receipt; (c) by telecopy, facsimile transmission, or electronic transmission such as e-mail, upon acknowledgment of receipt of electronic transmission; or (d) by certified or registered mail, return receipt requested, upon verification of receipt. Notice shall be sent to the addresses set forth below each party's signature, or such other address as either party may specify in writing.

8.8 Entire Agreement. This Agreement constitutes the entire agreement between the Parties relating to this subject matter and supersedes all prior or simultaneous representations, discussions, negotiations, and agreements, whether written or oral. This Agreement may be amended or modified only with the written consent of Employee and the Company. No oral waiver, amendment or modification will be effective under any circumstances whatsoever.

[Execution Page Follows]

THE PARTIES TO THIS AGREEMENT HAVE READ THE FOREGOING AGREEMENT AND FULLY UNDERSTAND EACH AND EVERY PROVISION CONTAINED HEREIN. WHEREFORE, THE PARTIES HAVE EXECUTED THIS AGREEMENT AS SHOWN BELOW.

EMPLOYEE:

Daniel Gordon Kirby

/s/ Daniel G. Kirby
Date: January 27, 2025

[***]

COMPANY:

Iovance Biotherapeutics, Inc.

By: /s/ Frederick G. Vogt
Date: January 27, 2025
Name: Frederick Vogt, Ph.D., J.D.
Title: Interim Chief Executive Officer and President, and General Counsel

825 Industrial Road, Suite 100
San Carlos, California 94070

Exhibit A

PSUs

Fiscal Year 2025 Revenue	Percentage of Target Shares Earned	Total target shares earned
Less than $450,000,000	0% earned	0
$450,000,000 to $475,000,000	50% earned	60,000
$475,000,000 to $500,000,000	75% earned	90,000
$500,000,000 to $525,000,000	100% earned	120,000
Greater than $525,000,000	125% earned	150,000

Portions of this Exhibit have been redacted because they are both (i) not material and (ii) would be competitively harmful if publicly disclosed or constitutes personal information. Information that was omitted has been noted in this document with a placeholder identified by the mark "[***]".

SUBLEASE

THIS SUBLEASE (this "Sublease") is dated for reference purposes as of November 15, 2024, and is made by and between Vaxcyte, Inc., a Delaware corporation ("Sublessor"), and Iovance Biotherapeutics, Inc., a Delaware corporation ("Sublessee"). Sublessor and Sublessee hereby agree as follows:

1. Recitals: This Sublease is made with reference to the fact that ARE – San Francisco No. 63, LLC, as landlord ("Master Lessor"), and Sublessor, as tenant, entered into that certain amended and restated lease, dated as of November 15, 2024 (the "Master Lease"), with respect to premises consisting of approximately 258,581 rentable square feet of space, located on the first – sixth floors of the building (the "Premises") located at 825 Industrial Rd., San Carlos, California (the "Building"). A redacted copy of the Master Lease is attached hereto as Exhibit A.

2. Premises: Sublessor hereby subleases to Sublessee, and Sublessee hereby subleases from Sublessor, a portion of the Premises consisting of approximately 16,731 rentable square feet of space located on the first floor of the Building (hereinafter, the "Subleased Premises"). The Subleased Premises are more particularly described on Exhibit B attached hereto. Except to the extent that the square footage of the Premises is reduced under the Master Lease, the square footage of the Subleased Premises shall be as set forth in this paragraph, notwithstanding any remeasurement. Sublessor has delivered to Sublessee a CAD file of the FF&E in the Subleased Premises.

3. Term:

A. Term. The term (the "Term") of this Sublease shall be for the period commencing upon the delivery of the Subleased Premises to Sublessee (the "Commencement Date"), which shall be no later than thirty (30) days after full execution and delivery of this Sublease and receipt of Master Lessor's consent hereto, and ending on the last day of the calendar month in which the second anniversary of the Commencement Date occurs (the "Expiration Date"), unless this Sublease is sooner terminated pursuant to its terms or the Master Lease sooner expires pursuant to its terms. For the avoidance of doubt, the Subleased Premises shall be deemed delivered when Sublessor vacates the Subleased Premises and provides Sublessee keys or other means of access thereto.

B. Early Entry. If Sublessor permits Sublessee to enter the Subleased Premises prior to the Commencement Date, such entry shall be solely for the purpose of move planning and not for the purpose of preparing the Subleased Premises for occupancy or conducting business therein. Sublessee acknowledges that Sublessor may still be occupying and conducting business in the Subleased Premises during such entry. Such entry shall be subject to all of the provisions of this Sublease, except for the obligation to pay Base Rent and shall not advance the Expiration Date of this Sublease.

C. Conditional Extension Option. If Sublessee is not and has not been in default under this Sublease and has not assigned this Sublease or sublet any of the Subleased Premises, Sublessee shall have two (2) conditional rights to extend the Term (each, a "Conditional Extension Option") for an additional twelve (12) months each (each, a "Conditional Extension Term") after the end of the initial Term or the initial Conditional Extension Term, as applicable, by delivering written notice thereof to Sublessor not more than nine (9) months nor less than six (6) months prior to the then-expiration of the Term; provided, however, Sublessor shall have the right to deliver written notice to Sublessee within the four (4) week period after receipt of Sublessee's notice that Sublessor or its affiliate or another entity with whom Sublessor has a business relationship may occupy the Subleased Premises during the Conditional Extension Term (the "Occupancy Notice") in which case Sublessee's exercise of the Conditional Extension Option shall be void and the Term of this Sublease shall expire at the end of the then-existing Term and there shall be no further right of Sublessee to extend the Term. If Sublessee properly exercises a Conditional Extension Option and Sublessor does not properly deliver the Occupancy Notice, the Term of this Sublease shall be extended for the Conditional Extension Term on the same terms as this Sublease, except Base Rent shall increase by three percent (3%) and there shall be only one remaining Conditional Extension Option after the first Conditional Extension Term an no further rights to extend the Term after the second Conditional Extension Term. If Sublessee fails to properly exercise the initial Conditional Extension Option or Sublessor provides an Occupancy Notice with respect thereto, there shall be no further Conditional Extension Option.

4. Rent:

A. Base Rent. Sublessee shall pay to Sublessor as base rent for the Subleased Premises for each month during the Term the amount of Ninety Nine Thousand Five Hundred Forty-Nine and 53/100 Dollars ($99,549.53) per month, which amount shall increase to One Hundred Two Thousand Five Hundred Thirty-Five and 93/100 Dollars ($102,535.93) on the first day of the calendar month after the first anniversary of the Commencement Date ("Base Rent"). Base Rent and Additional Rent shall be payable without notice or demand and without any deduction, offset, or abatement, in lawful money of the United States of America. Base Rent and Additional Rent shall be paid directly to Sublessor pursuant to the ACH instructions provided by Sublessor, or as otherwise may be designated in writing by Sublessor.

B. Additional Rent. All monies other than Base Rent required to be paid by Sublessor under the Master Lease as to the Subleased Premises, including, without limitation, any amounts payable by Sublessor to Master Lessor as "Operating Expenses" (as defined in Section 5 of the Master Lease), shall be paid by Sublessee hereunder as and when such amounts are due under the Master Lease, as incorporated herein. Sublessee shall also pay to Sublessor any gross receipts or rent tax payable with respect to this Sublease and all costs directly incurred by or at the request of Sublessee with respect to its use of the Subleased Premises. All such amounts shall be deemed additional rent ("Additional Rent"). Base Rent and Additional Rent hereinafter collectively shall be referred to as "Rent". Sublessee and Sublessor agree, as a material part of the consideration given by Sublessee to Sublessor for this Sublease, that Sublessee shall pay all costs, expenses, taxes, insurance, maintenance and other charges of every kind and nature arising in connection with this Sublease, the Master Lease as to the Subleased Premises or the Subleased Premises, such that Sublessor shall receive, as a net consideration for this Sublease, the Base Rent payable under Paragraph 4.A hereof. For the avoidance of doubt, in the event any cost or expense

is incurred under the Master Lease for Sublessee's sole benefit (including the disproportionate use of utilities) or as a result of Sublessee's request for certain services (such as after hours HVAC charges), Sublessee shall pay the entire cost thereof.

C. Payment of First Month's Rent. Upon execution hereof by Sublessee, Sublessee shall pay to Sublessor the sum of Ninety Nine Thousand Five Hundred Forty-Nine and 53/100 Dollars ($99,549.53), which shall constitute Base Rent for the first month of the Term.

5. Security Deposit: Upon execution hereof by Sublessee, Sublessee shall deposit with Sublessor the sum of Ninety Nine Thousand Five Hundred Forty-Nine and 53/100 Dollars ($99,549.53) (the "Security Deposit"), in cash, as security for the performance by Sublessee of the terms and conditions of this Sublease. The Security Deposit shall be held and applied in accordance with the terms of Section 6 of the Master Lease, as incorporated herein.

6. Holdover: In the event that Sublessee does not surrender the Subleased Premises by the Expiration Date in accordance with the terms of this Sublease, Sublessee shall indemnify, defend, protect and hold harmless Sublessor from and against all loss and liability resulting from Sublessee's delay in surrendering the Subleased Premises and pay Sublessor holdover rent as provided in Section 8 of the Master Lease, as incorporated herein.

7. Repairs: Sublessor shall deliver the Subleased Premises to Sublessee in "broom clean" condition. To Sublessor's actual knowledge, the heating, ventilating and air conditioning and other systems serving the Subleased Premises are in good, working order and repair. The parties acknowledge and agree that Sublessee is subleasing the Subleased Premises on an "as is" basis, and that Sublessor has made no representations or warranties with respect to the condition of the Subleased Premises except as set forth in this paragraph. Sublessor shall have no obligation whatsoever to make or pay the cost of any alterations, improvements or repairs to the Subleased Premises, including, without limitation, any improvement or repair required to comply with any law; provided, however, to the extent that Master Lessor provides warranties or is required to effectuate compliance under the Master Lease, upon Sublessee's request, Sublessor shall use commercially reasonable efforts (without requiring Sublessor to engage in litigation) to cause Master Lessor to perform its obligations under the Master Lease if there are issues with condition of Building Systems, including but not limited to roof, HVAC, electrical, plumbing, fire/life safety systems, or issues with conformance with applicable Legal Requirements on the Commencement Date and the same materially interfere with Sublessee's ability to utilize the Subleased Premises. Master Lessor shall be solely responsible for performance of any repairs required to be performed by Master Lessor under the terms of the Master Lease.

8. Assignment and Subletting: Sublessee may not assign this Sublease, sublet the Subleased Premises, transfer any interest of Sublessee therein or permit any use of the Subleased Premises by another party (collectively, "Transfer"), without the prior written consent of Sublessor (which (i) shall not be unreasonably, withheld, conditioned or delayed with respect to assignments to third parties (subject to Sublessor's rights under Section 22(b)(iii) of the Master Lease, as incorporated herein), (ii) shall not be required with respect to, assignments or subleases to an entity controlling, controlled by or under common control with Sublessee, provided Sublessor shall have the right to approve the form of any such sublease or assignment in its reasonable discretion, and (iii) if given, occurring within thirty (30) days of written notice of Sublessee's proposed

assignment or sublease) and Master Lessor; provided, however, Sublessor's consent shall not be required for "Permitted Assignments," as defined in Section 22(b) of the Master Lease, by Sublessee. Any Transfer shall be subject to the terms of Section 22 of the Master Lease, as incorporated herein.

9. Use: Sublessee may use the Subleased Premises only for office use. Sublessee shall not use, store, transport or dispose of any Hazardous Material in or about the Subleased Premises.

10. Effect of Conveyance: As used in this Sublease, the term "Sublessor" means the holder of the tenant's interest under the Master Lease. In the event of any assignment or transfer of the tenant's interest under the Master Lease, which assignment or transfer may occur at any time during the Term hereof in Sublessor's sole discretion, Sublessor shall be and hereby is entirely relieved of all covenants and obligations of Sublessor hereunder, and it shall be deemed and construed, without further agreement between the parties, that any transferee has assumed and shall carry out all covenants and obligations thereafter to be performed by Sublessor hereunder.

11. Delivery and Acceptance: If Sublessor fails to deliver possession of the Subleased Premises to Sublessee on or before the date set forth in Paragraph 3.A hereof for any reason whatsoever, then this Sublease shall not be void or voidable; provided, however, that all of Sublessee's obligations under this Sublease with respect to the Subleased Premises, including, without limitation, Sublessee's obligation to pay Rent, shall be abated until Sublessor delivers possession of the Subleased Premises to Sublessee. By taking possession of the Subleased Premises, Sublessee conclusively shall be deemed to have accepted the Subleased Premises in their as-is, then-existing condition, without any warranty whatsoever of Sublessor with respect thereto.

12. Improvements: No alteration or improvements shall be made to the Subleased Premises, except in accordance with the Master Lease, and with the prior written consent of both Master Lessor and Sublessor.

13. Insurance: Sublessee shall obtain and keep in full force and effect, at Sublessee's sole cost and expense, during the Term the insurance required of "Tenant" under Section 17 of the Master Lease. Sublessee shall name Master Lessor and Sublessor as additional insureds under its liability insurance policy. The release and waiver of subrogation set forth in the fourth paragraph of Section 17 of the Master Lease, as incorporated herein, shall be binding on the parties.

14. Default: Sublessee shall be in default under this Sublease if Sublessee commits any act or omission which constitutes a default under the Master Lease, which has not been cured after delivery of written notice and passage of the applicable grace period provided in the Master Lease as modified, if at all, by the provisions of this Sublease. In the event of any default by Sublessee, Sublessor shall have all remedies provided pursuant to Section 21 of the Master Lease and by applicable law, including damages that include the worth at the time of award of the amount by which the unpaid rent for the balance of the term after the time of award exceeds the amount of such rental loss that the lessee proves could be reasonably avoided and the remedy described in California Civil Code Section 1951.4 (lessor may continue lease in effect after lessee's breach and abandonment and recover rent as it becomes due, if lessee has right to sublet or assign, subject only to reasonable limitations).

15. Surrender: Prior to expiration of this Sublease, Sublessee shall remove all of its trade fixtures and shall surrender the Subleased Premises to Sublessor in the condition required under the Master Lease, as incorporated herein. If the Subleased Premises are not so surrendered, then Sublessee shall be liable to Sublessor for all liabilities Sublessor incurs as a result thereof, including costs incurred by Sublessor in returning the Subleased Premises to the required condition.

16. Broker: Sublessor and Sublessee each represents to the other that it has dealt with no real estate brokers, finders, agents or salesmen other than Jones Lang LaSalle in connection with this transaction. Each party agrees to hold the other party harmless from and against all claims for brokerage commissions, finder's fees or other compensation made by any other agent, broker, salesman or finder as a consequence of such party's actions or dealings with such agent, broker, salesman, or finder.

17. Notices: Unless at least five (5) days' prior written notice is given in the manner set forth in this paragraph, the address of each party for all purposes connected with this Sublease shall be the applicable address set forth below its signature at the end of this Sublease. All notices, demands or communications in connection with this Sublease shall be (a) personally delivered; or (b) properly addressed and (i) submitted to an overnight courier service, charges prepaid, or (ii) deposited in the mail (certified, return receipt requested, and postage prepaid). Notices shall be deemed delivered upon receipt, if personally delivered, one (1) business day after being submitted to an overnight courier service and three (3) business days after mailing, if mailed as set forth above); provided that, to be valid, notices to Sublessor must also be emailed to Mikhail.eydelman@vaxcyte.com or such other email as may be provided by Sublessor from time to time. All notices given to Master Lessor under the Master Lease shall be considered received only when delivered in accordance with the Master Lease.

18. Miscellaneous: This Sublease may not be amended except by the written agreement of all parties hereto. Sublessor has not had an inspection of the Premises performed by a Certified Access Specialist as described in California Civil Code § 1938. A Certified Access Specialist (CASp) can inspect the Subleased Premises and determine whether the Subleased Premises complies with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the Subleased Premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the Subleased Premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the Subleased Premises. Capitalized terms used but not defined in this Sublease shall have the meanings ascribed to such terms in the Master Lease.

19. Other Sublease Terms:

A. Incorporation by Reference. Except as set forth below, the terms and conditions of this Sublease shall include all of the terms of the Master Lease and such terms are incorporated into this Sublease as if fully set forth herein, except that: (i) each reference in such incorporated sections to "Lease" and "Premises" shall be deemed a reference to "Sublease" and

"Subleased Premises," respectively; (ii) each reference to "Commencement Date" or "Rent Commencement Date" shall be deemed a reference to the Commencement Date under this Sublease; (iii) each reference to "Landlord" and "Tenant" shall be deemed a reference to "Sublessor" and "Sublessee", respectively, except as otherwise expressly set forth herein; (iv) with respect to work, services, repairs, restoration, insurance, indemnities, representations, warranties or the performance of any other obligation of Master Lessor under the Master Lease, the sole obligation of Sublessor shall be to request the same in writing from Master Lessor as and when requested to do so by Sublessee, and to use Sublessor's reasonable efforts (without requiring Sublessor to spend more than a nominal sum) to obtain Master Lessor's performance; (v) with respect to any obligation of Sublessee to be performed under this Sublease, wherever the Master Lease grants to Sublessor a specified number of days to perform its obligations under the Master Lease, except as otherwise provided herein, Sublessee shall have three (3) fewer days to perform the obligation, including, without limitation, curing any defaults; (vi) with respect to any approval required to be obtained from the "Landlord" under the Master Lease, such consent must be obtained from both Master Lessor and Sublessor, and the approval of Sublessor may be withheld if Master Lessor's consent is not obtained; (vii) in any case where the "Landlord" reserves or is granted the right to manage, supervise, control, repair, alter, regulate the use of, enter or use the Premises or any areas beneath, above or adjacent thereto, perform any actions or cure any failures, such reservation or right shall be deemed to be for the benefit of both Master Lessor and Sublessor; (viii) in any case where "Tenant" is to indemnify, release or waive claims against "Landlord", such indemnity, release or waiver shall be deemed to cover, and run from Sublessee to, both Master Lessor and Sublessor; (ix) in any case where "Tenant" is to execute and/or deliver certain documents or notices to "Landlord", such obligation shall be deemed to run from Sublessee to both Master Lessor and Sublessor; (x) all payments shall be made to Sublessor; (xi) Sublessee shall pay all consent and review fees set forth in the Master Lease to each of Master Lessor and Sublessor (provided that no such consent or review fees shall be payable by Sublessee with respect to this Sublease); and any caps shall apply separately to Master Lessor and Sublessor; (xii) Sublessee shall not have the right to terminate this Sublease due to casualty or condemnation unless Sublessor has such right under the Master Lease; (xiii) all "Excess Rent" received by Sublessee under subleases and assignments shall be paid to Sublessor; (xiv) Sublessor's obligations under Section 5 are limited to forwarding statements and refunds provided by Master Lessor, and Sublessee shall have no right to dispute or audit such statements; (xv) Sublessee's Share shall initially mean 6.1% of the Building; (xvi) all references to any Abatement Period, Work Letters, Suites 400 Office or Lab, Suite 500, Suite 600, Supplemental Additional Premises or Pilot Plant Alterations and Allowances shall be deleted; (xvii) "Operating Expenses" shall have the meaning set forth in the Master Lease; (xviii) "Permitted Use" shall mean office use; and (xix) Sublessee shall be required to pay for all utilities to the Subleased Premises, as reasonably determined by Sublessor, and Sublessor shall provide to Sublessee calculations of its utility payments and invoices and bills for such utility payments. Under no circumstances shall rent abate under this Sublease except to the extent that rent correspondingly abates under the Master Lease as to the Subleased Premises.

Notwithstanding the foregoing, the following provisions of the Master Lease shall not be incorporated herein: Provisions before Section 1 (except the definitions of Building and Project), Sections 1(a) (the fifth sentence before "Tenant shall" and the sixth sentence), 1(b)-(d), 2 (except the first two sentences of the fourth paragraph of subpart (b) (with references to the Suite 400 Office Premises and the Suite 400 Office Premises Commencement Date to mean the Subleased

Premises and the Commencement Date of this Sublease) and the last paragraph of subpart (f)), 3(a) (except the last two sentences of the first paragraph), 4(a) (except subpart (iv), 4(b), 5 (the last three paragraphs and provided subparts (a)-(d) of the first paragraph shall be replaced with "Commencement Date"), 6 (the first two sentences and the second paragraph), 7 (the second sentence starting with "unless"), 10 (the second and third sentences), 11 (the seventh sentence), 12(a) and (b), 12(c) (the second sentence and the penultimate paragraph), 14 (the second paragraph), 18 (the fourth sentence of the first paragraph and the third sentence after the parenthetical and fourth sentence of the second paragraph), 22(b) (the phrase "and the subletting concerns...50% or more of the Premises for substantially the remainder of the Term" in subpart (iii) and the last paragraph), 27 (the last sentence of the first paragraph and the second paragraph), 30(b) (the second sentence and through the first comma in the third sentence), 30(e), 30(f) (after the first sentence), 31 (the second sentence), 35, 38 (the second and fourth sentences and the second and third paragraphs, subject to Paragraph 23 below), 39-46, 47(a), 47(d) (the last sentence), 47(o), 47(s) and 47(t) and Exhibits A, C, G-K and M. In addition, notwithstanding subpart (iii) above, (a) references in the following provisions to "Landlord" shall mean Master Lessor only: Sections 7 (the first two sentences of the second paragraph and the last paragraph), 9 (the first five sentences), 11 (the first two sentences of the first paragraph, the first sentence of the second paragraph and the first four sentences of the third paragraph), 13, 17 (the first paragraph), 18 (the first paragraph and the first three sentences of the second paragraph), 19 and 47(p)(E) and Exhibit L; and (b) references in the following provisions to "Landlord" shall mean Master Lessor and Sublessor: Sections 1 (the penultimate sentence), 9 (the last six sentences), 11 (the last paragraph), 12(c) (the last sentence of the third paragraph), 17 (the second and third paragraphs) and 23.

B. Assumption of Obligations. This Sublease is and at all times shall be subject and subordinate to the Master Lease and the rights of Master Lessor thereunder. Sublessee hereby expressly assumes and agrees: (i) to comply with all provisions of the Master Lease which are incorporated hereunder; and (ii) to perform all the obligations on the part of the "Tenant" to be performed under the terms of the Master Lease during the Term of this Sublease as incorporated hereunder. In the event the Master Lease is terminated for any reason whatsoever, this Sublease shall terminate simultaneously with such termination (unless Master Lessor or a successor tenant agrees to permit Sublessee to continue to occupy the Subleased Premises on the terms of this Sublease for the remainder of the Term), without any liability of Sublessor to Sublessee. In the event of a conflict between the provisions of this Sublease and the Master Lease, as between Sublessor and Sublessee, the provisions of this Sublease shall control. In the event of a conflict between the express provisions of this Sublease and the provisions of the Master Lease, as incorporated herein, the express provisions of this Sublease shall prevail.

20. Conditions Precedent: This Sublease and Sublessor's and Sublessee's obligations hereunder are conditioned upon the written consent of Master Lessor. If Sublessor fails to obtain Master Lessor's consent within thirty (30) days after execution of this Sublease by Sublessor, then Sublessor or Sublessee may terminate this Sublease by giving the other party written notice thereof prior to the date such consent is received, and Sublessor shall return to Sublessee its payment of the first month's Rent paid by Sublessee pursuant to Paragraph 4 hereof and the Security Deposit.

21. Termination; Recapture: Notwithstanding anything to the contrary herein, Sublessee acknowledges that, under the Master Lease, both Master Lessor and Sublessor have certain termination and recapture rights, including, without limitation, in Sections 18, 19 and

22(b)(iii). Nothing herein shall prohibit Master Lessor or Sublessor from exercising any such rights and neither Master Lessor nor Sublessor shall have any liability to Sublessee as a result thereof. In the event Master Lessor or Sublessor exercise any such termination or recapture rights as to all of the Subleased Premises, this Sublease shall terminate without any liability to Master Lessor or Sublessor.

22. Furniture, Fixtures and Equipment: Sublessee shall have the right to use during the Term the office furnishings, fixtures and equipment within the Subleased Premises which are identified on Exhibit C attached hereto (the "FF&E") at no additional cost to Sublessee. The FF&E is provided in its "AS IS, WHERE IS" condition, without representation or warranty whatsoever. Sublessee shall insure the FF&E under the property insurance policy required under the Master Lease, as incorporated herein, and pay all taxes with respect to the FF&E. Sublessee shall maintain the FF&E in good condition and repair, reasonable wear and tear excepted, and shall be responsible for any loss or damage to the same occurring during the Term. Sublessee shall surrender the FF&E to Sublessor upon the termination of this Sublease in the same condition as exists as of the Commencement Date, reasonable wear and tear excepted. Sublessee shall not remove any of the FF&E from the Subleased Premises.

23. Parking and Signage: Sublessee shall have the parking rights set forth in Section 10 of the Master Lease, as incorporated herein. Subject to Master Lessor's and Sublessor's consent, Sublessee shall have the right, at its sole cost, to maintain its existing Building and monument signage during the Term, provided such signage does not reduce Sublessor's signage under the Master Lease. In addition, if Master Lessor consents thereto and subject to the foregoing and the terms of Section 38 of the Master Lease, Sublessee's name and suite number may be included on the Building lobby directory during the Term. Upon the termination of the Sublease, Sublessee shall, at its sole cost, remove all its signage (including its existing Building and monument signage and its lobby signage) and restore the area in which the signage was located to Sublessor's reasonable satisfaction.

IN WITNESS WHEREOF, the parties have executed this Sublease as of the day and year first above written.

SUBLESSOR:	SUBLESSEE:
VAXCYTE, INC., a Delaware corporation	IOVANCE BIOTHERAPEUTICS, INC., a Delaware corporation
By: /s/ Grant Pickering	By: /s/ Frederick G. Vogt
Name: Grant Pickering	Name: Frederick G. Vogt, Ph.D., Esq.
Its: CEO	Its: Interim CEO and President; General Counsel and Corporate Secretary
Address: 825 Industrial Rd San Carlos, CA 94070 Attention: Chief Executive Officer	Address: 825 Industrial Rd San Carlos, CA 94070

EXHIBIT A

MASTER LEASE

[***]

EXHIBIT B

SUBLEASED PREMISES

[***]

EXHIBIT C

FF&E

[***]

AGREEMENT FOR TERMINATION OF LEASE AND VOLUNTARY SURRENDER OF PREMISES

This Agreement for Termination of Lease and Voluntary Surrender of Premises (this "**Agreement**") is made and entered into as of November 15, 2024, by and between **ARE-SAN FRANCISCO NO. 63, LLC**, a Delaware limited liability company (**"Landlord**"), and **IOVANCE BIOTHERAPEUTICS, INC.**, a Delaware corporation (**"Tenant**"), with reference to the following:

RECITALS

A. Pursuant to that certain Lease Agreement dated as of February 8, 2021 (the "**Lease**"), Tenant now leases from Landlord certain premises containing approximately 49,918 rentable square feet known as Suite 400 (the "**Premises**") in that certain building located at 825 Industrial Road, San Carlos, California, as more particularly described in the Lease. Capitalized terms used herein without definition shall have the meanings defined for such terms in the Lease.

B. The Term of the Lease is scheduled to expire on January 31, 2032 (the "**Scheduled Expiration Date**").

C. Tenant and Landlord desire, subject to the terms and conditions set forth below, to accelerate the expiration date of the Term of the Lease.

NOW, THEREFORE, in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

1. Termination Date. Landlord and Tenant agree, subject to the terms and conditions set forth herein, to accelerate the expiration date of the Term of the Lease from the Scheduled Expiration Date to the earlier of (a) the date Tenant vacates and surrenders the Premises in accordance with all the conditions and requirements for surrender set forth in the Lease, or (b) 11:59 PM Pacific Time on December 31, 2024 (such earlier date, the "**Termination Date**"). Notwithstanding anything to the contrary contained in the Lease, Tenant shall have no further right to extend the Term of the Lease, and the Term of the Lease shall terminate on the Termination Date.

2. Lease Modification Payment. In consideration of Landlord's agreement to enter into this Agreement, upon full execution of this Agreement, Tenant shall deliver to Landlord a lease modification payment in the amount of $600,000 (the "**Lease Modification Payment**"). Notwithstanding anything to the contrary contained in this Agreement, if Tenant does not surrender the Premises on or before the Termination Date in strict accordance with the terms of this Agreement, the Term of the Lease shall nonetheless terminate on the Termination Date and the holdover provisions of the Lease shall apply.

3. Base Rent and Operating Expenses. Tenant shall be responsible for the payment of all Base Rent, Operating Expenses and any other obligations due under the Lease through the Termination Date. Tenant shall not be required to pay Base Rent or Operating Expenses for any

period following the Termination Date so long as Tenant surrenders the Premises in strict compliance with this Agreement and the Lease, and Tenant is not in breach hereof or under the Lease.

4. Security Deposit. Landlord and Tenant acknowledge and agree that Landlord currently holds a security deposit under the Lease in the amount of $559,081.60 (the "**Security Deposit**"). So long as Tenant is not in breach of this Agreement or under the Lease, Landlord shall return the Security Deposit to Tenant in accordance with the terms of the Lease. For the avoidance of doubt, if Tenant fails to timely deliver the Lease Modification Payment to Landlord, then Landlord shall be entitled to retain all or a portion of the Security Deposit, in an amount equal to such unpaid Lease Modification Payment (if any), and apply it toward such unpaid portion of the Lease Modification Payment.

5. Termination and Surrender. Tenant shall voluntarily surrender the Premises. Tenant agrees to cooperate reasonably with Landlord in all matters, as applicable, relating to surrendering the Premises in accordance with the surrender requirements set forth in the Lease and in the condition required pursuant to the Lease. After the Termination Date, Tenant shall have no further rights of any kind with respect to the Premises. Notwithstanding the foregoing, as provided in Section 6 hereof, those provisions of the Lease which, by their terms, survive the termination of the Lease shall survive the surrender of the Premises and termination of the Lease provided for herein.

6. No Further Obligations. Landlord and Tenant each agree that the other is excused following the Termination Date from any further obligations under the Lease with respect to the Premises, excepting only such obligations under the Lease which are, by their terms, intended to survive termination of the Lease (including, without limitation, those obligations in connection with the reconciliation of Operating Expenses pursuant to Section 5 of the Lease, which are intended to survive termination of the Lease) and except as provided for in this Agreement. For avoidance of doubt, the parties agree that Tenant shall not be responsible for paying Base Rent or Operating Expenses with respect to the Premises attributable to any period of time following the Termination Date; provided, however, the holdover provisions of the Lease shall apply if Tenant fails to surrender the Premises in strict compliance with the terms of this Agreement on or before the Termination Date. In addition, nothing herein shall be deemed to limit or terminate any common law or statutory rights Landlord may have with respect to Tenant in connection with any hazardous materials or for violations of any governmental requirements or requirements of applicable law. Nothing herein shall excuse Tenant from its obligations under the Lease, as modified by this Agreement, prior to the Termination Date.

7. Personal Property. Except for the personal property of Tenant being purchased by Vaxcyte, Inc. (**"Vaxcyte**"), the incoming tenant of the Premises pursuant to a separate agreement between Vaxcyte and Tenant, any personal property of Tenant remaining in the Premises after the Termination Agreement is hereby agreed to be abandoned by Tenant and may be stored, removed and disposed of by Landlord, at Tenant's expense.

8. Intentionally Omitted.

9. Tenant's Notice Address. Any notice given by Landlord to Tenant following the Termination Date may be delivered by (i) reputable overnight courier, or (ii) hand delivery with signature confirming receipt to the following address:

825 Industrial Road, Suite 100A
San Carlos, CA 94070
Attention: Legal Department

10. Acknowledgment. Tenant acknowledges that it has read the provisions of this Agreement, understands them, and is bound by them. Time is of the essence in this Agreement.

11. No Assignment. Tenant represents and warrants that Tenant has not assigned, mortgaged, subleased, pledged, encumbered or otherwise transferred any interest in the Lease and that Tenant holds the interest in the Premises as set forth in the Lease as of the date of this Agreement.

12. No Modification. This Agreement may not be modified or terminated except in writing signed by all parties.

13. Successors and Assigns. The covenants and agreements herein contained shall inure to the benefit and be binding upon the parties and their respective successors and assigns.

14. Attorneys' Fees. In the event of a dispute between the parties, the prevailing party shall be entitled to have its reasonable attorneys' fees and costs paid by the other party. Each party shall be responsible for its own costs and legal fees in connection with the negotiation, execution and delivery of this Agreement and the consummation of the transactions contemplated hereby.

15. Choice of Law. Construction and interpretation of this Agreement shall be governed by the internal laws of the state in which the Premises are located, excluding any principles of conflicts of laws.

16. Opportunity for Consultation. Each party represents and warrants that such party is entering into this Agreement knowingly and voluntarily and that each party has, or has had the opportunity to, review any and all aspects of this Agreement with the legal, tax or other advisor or advisors of such party's choice prior to executing this Agreement. Each of the parties has had the opportunity to negotiate the terms, conditions and language of this Agreement. The rule of construction that ambiguities are resolved against the drafting party shall not be applied in interpreting this Agreement.

17. Brokers. Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, "**Broker**") in connection with the transaction reflected in this Agreement and that no Broker brought about this transaction, other than JLL. Landlord and Tenant each hereby agrees to indemnify and hold the other harmless from and against any claims by any Broker, other than JLL, claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this Agreement.

18. OFAC. Tenant and all beneficial owners of Tenant are currently (a) in compliance with and shall at all times during the Term of the Lease remain in compliance with the regulations

of the Office of Foreign Assets Control (“**OFAC**”) of the U.S. Department of Treasury and any statute, executive order, or regulation relating thereto (collectively, the “**OFAC Rules**”), (b) not listed on, and shall not during the term of the Lease be listed on, the Specially Designated Nationals and Blocked Persons List, Foreign Sanctions Evaders List or the Sectoral Sanctions Identifications List, which are all maintained by OFAC and/or on any other similar list maintained by OFAC or other governmental authority pursuant to any authorizing statute, executive order, or regulation, and (c) not a person or entity with whom a U.S. person is prohibited from conducting business under the OFAC Rules.

19. Counterparts. This Agreement may be executed in 2 or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature process complying with the U.S. federal ESIGN Act of 2000) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes. Electronic signatures shall be deemed original signatures for purposes of this Agreement and all matters related thereto, with such electronic signatures having the same legal effect as original signatures.

[Signatures are on the next page]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

TENANT:

IOVANCE BIOTHERAPEUTICS, INC,
a Delaware corporation

By: /s/ Frederick G. Vogt
Name: Frederick G. Vogt, Ph.D., J.D.
Its: Interim CEO and President

☒ I hereby certify that the signature, name, and title above are my signature, name and title

LANDLORD:

ARE-SAN FRANCISCO NO. 63, LLC,
a Delaware limited liability company

By: Alexandria Real Estate Equities, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS Corp.,
a Maryland corporation,
general partner

By: /s/ Kristen Childs
Name: Kristen Childs
Its: Vice President – Real Estate

Iovance Biotherapeutics, Inc.

Insider Trading Policy

I. INTRODUCTION

It is the policy of Iovance Biotechnologies, Inc. (the "**Company**") that its employees and members of its Board of Directors comply fully with the insider trading securities laws and regulations of the United States, of the several states, and of foreign jurisdictions, wherever they are applicable.

It is illegal for any person, either personally or on behalf of others, to trade in securities on the basis of material nonpublic information. It is also illegal to communicate (to "**tip**") material nonpublic information to others so that they may trade in securities on the basis of such information. These illegal activities are commonly referred to as "**insider trading**." Penalties for insider trading violations include civil fines of up to three times the profit gained or loss avoided by the trading, criminal fines of up to $1 million, and imprisonment for up to 10 years. There may also be liability to those damaged by the trading. A company whose employee violates the insider trading prohibitions may be liable for a civil fine of up to the greater of $1 million or three times the profit gained or loss avoided as a result of the employee's insider trading violation.

II. SCOPE

This insider trading policy (this "**Policy**") covers all insiders, which includes all directors, officers and employees of the Company, their family members and any corporations, partnerships, trusts or other entities owned or controlled by the foregoing persons and any trusts in which such persons are trustees or beneficiaries or any corporation in which such persons hold more than 20% of the equity or voting rights (collectively referred to as "**Insiders**"), and any outsiders whom the Board of Directors, Chief Executive Officer, Chief Financial Officer or General Counsel may designate as Insiders because they have or may gain access to material nonpublic information concerning the Company. For purposes of this Policy, "**family members**" include people who live with Company directors, officers and/or employees, or are financially dependent on Company directors, officers and/or employees, and also include those whose transactions in securities are directed by Company directors, officers and/or employees or are subject to the influence or control of Company directors, officers and/or employees. This policy also applies to all third party consultants engaged by the Company on a direct or individual basis ("**Consultants**"), but does not apply to third party consultants engaged by the Company through a consultancy firm or other similar entity which may be fairly characterized as routinely providing consultancy services to one or more companies as part of its business model, in which case, any consulting agreement with such firms shall contain appropriate

insider trading provisions as approved by the General Counsel. The determination as to whether this Policy applies to any particular consultant will be made by the General Counsel at the time of engaging such consultant's services. Each director, officer, employee and Consultant is *personally responsible* for the actions of their family members and other persons with whom they have a relationship who are subject to this Policy, including any pre-clearances required.

This Policy will be delivered to all directors, officers, employees, Consultants and designated outsiders upon its adoption by the Company, and to all new directors, officers, employees, Consultants and designated outsiders at the start of their employment or relationship with the Company. Upon first receiving a copy of this Policy or any revised versions, each Insider, Consultant and designated outsider must sign an acknowledgement that he or she has received a copy and agrees to comply with this Policy's terms. Officers, employees, directors, certain designated Insiders, Consultants and designated outsiders may be required to certify compliance with this Policy on an annual basis.

Conduct that violates or does not comply with this statement is outside the scope of employment for the Company's employees. Any employee of the Company who fails to comply with this Policy will be subject to appropriate disciplinary action, which may include suspension or termination of employment.

III. POLICY

A. Definition of Material Nonpublic Information

This Policy, applicable to all personnel, prohibits trading in securities, tipping others who might trade, and various other transactions depending on your role with the Company (see Section III(C) – "Pre-clearance Procedures for Insiders – *Prohibited Transactions for Covered Persons*"), when you know of material nonpublic information.

What information is "material"?

All information that a reasonable investor might consider important in deciding to buy, sell or hold securities is considered "**material**." Either positive or negative information may be material. Information that is likely to affect the price of securities almost always is material. Examples of some types of material information are:

- information regarding the results of the Company's research and development activities, including the results of clinical trials for the Company's product candidates or the results from pre-clinical experiments and screenings;
- information regarding the status or pace of enrollment of clinical trials for the Company's product candidates;
- information regarding the status of regulatory approval or the regulatory process for any of the Company's product candidates or products of any of the Company's collaboration partners;
- negotiating, obtaining or losing important contracts, including, without limitation, licenses and strategic alliances with pharmaceutical companies, contract

manufacturing organizations, biotechnology companies, academic institutions, foundations or government agencies;

- scientific discoveries, including new product candidates, the mechanism of action of our product candidates, new formulations of our product candidates, etc.;
- progress in obtaining any patents or other intellectual property rights and important product developments;
- information regarding the sales, marketing and manufacturing of any of the Company's products;
- financial results for the quarter or the year and any financial forecasts;
- possible public or private offerings, mergers, acquisitions, joint ventures, collaborations and other purchases and sales of companies and investments in companies;
- major financial developments or major personnel changes; and
- major litigation developments.

Remember, if your securities transactions become the subject of scrutiny, they will be reviewed after the fact with the benefit of 20/20 hindsight. As a result, in determining whether to approve your transactions in Company securities as provided below, we may consider how regulators and others might view your transactions with hindsight.

If you are unsure whether information of which you are aware is material or nonpublic, you should consult with the Chief Financial Officer.

What is nonpublic information?

Information is considered to be nonpublic unless it has been effectively disclosed to the public and there has been adequate time for the market as a whole to digest such information. Examples of effective disclosure include public filings by the Company with the U.S. Securities and Exchange Commission (the "**SEC**"), Company press releases, Company meetings with members of the press and the public and Company conference calls on webcasts that are open to the public. Generally, no transactions should take place until at least two (2) business days after the disclosure of material information by the Company. Further restrictions for Covered Persons (as defined below) are set forth in Section III(C).

Prohibited transactions.

When you know material information about the Company that has not been made public, this Policy expressly prohibits the following activities:

- trading in the Company's securities or derivatives of the Company's securities;

- transferring ownership of Company's securities or derivatives of the Company's securities in exchange for value, including but not limited to monetizing transactions;

- having others trade for you in the Company's securities or derivatives of the Company's securities;

- disclosing such information to anyone else who might then trade; and

- assisting anyone in any of the foregoing activities.

For purposes of this policy, a "**derivative of the Company's securities**" shall mean any contract or other right with a value that is based on the value of the Company's securities, including, but not limited to, short positions, such as options to sell the Company's securities, long positions, such as options to buy the Company's securities, and hedging positions. For purposes of this policy, a "**hedging position**" is any position that includes both short and long positions in the Company's securities. For purposes of this policy, a "**short position**" shall mean any contract or other right with a value that is based on the value of the Company's securities and that may benefit from a decline in the Company's stock price, such as an option to sell the Company's securities (a "**put option**"). For purposes of this policy, a "**long position**" shall mean any contract or other right with a value that is based on the value of the Company's securities and that may benefit from an increase in the Company's stock price, such as an option to buy the Company's securities (a "**call option**").

Neither you nor anyone acting on your behalf nor anyone who learns the information from you can trade. This prohibition continues whenever and for as long as the information is material and nonpublic. The restrictions in this Policy apply to your spouse, your dependents and other members of your household. You are responsible for their compliance with this Policy.

Although it is most likely that any material nonpublic information you might learn would be about the Company, these prohibitions also apply to trading in the securities of any company about which you have material nonpublic information.

B. Unauthorized Disclosure

As discussed above, the disclosure of material nonpublic information to others can lead to significant legal difficulties. Therefore, you should not discuss material nonpublic information about the Company with anyone, including other employees, except as required in the performance of your regular duties.

In any instance in which such information is disclosed to outsiders, the Company shall take such steps as are necessary to preserve the confidentiality of the information, including requiring the outsider to agree in writing to comply with the terms of this Policy and/or to sign a confidentiality agreement. All inquiries from outsiders regarding material nonpublic information about the Company must be forwarded to the Corporate Communications & Investor Relations department of the Company.

It is important that only specifically designated representatives of the Company discuss the Company and information about the Company with the news media, securities analysts and investors. Inquiries of this type received by any employee should be referred to the Corporate Communications & Investor Relations department of the Company.

The Company strongly discourages all Insiders and Consultants from giving trading advice concerning the Company to third parties even when the Insiders and Consultants do not possess material nonpublic information about the Company.

C. Pre-clearance Procedures for Insiders and Consultants

Insiders and Consultants must obtain written pre-clearance from the Chief Financial Officer before engaging in any personal transaction in Company securities after complying with the following procedures. First, a written request on the form attached hereto for pre-clearance stating the number of Company securities to be purchased or sold and the nature of the transaction *(e.g.,* sale or purchase in the open market, private sale or purchase, transfer for estate planning purposes, charitable contribution, etc.) must be submitted to the Chief Financial Officer. The Chief Financial Officer must respond in writing by signing the form or responding via email. You will generally receive a response within one (1) business day. Unless a different period is specified, clearance for sales or purchases on the open market is good only until the close of the stock market on the fifth (5th) trading day following the day on which you received clearance, excluding the day you receive clearance. For purposes of counting the five-trading day period, a trading day is defined as any day in which The Nasdaq Global Market is open to trading activity, and the first trading day after clearance is received is considered day one. If you have not executed your transaction within this period, you must again pre-clear your transaction.

Prohibited Transactions for Covered Persons

The following restrictions apply to all Covered Persons:

- Covered Persons who purchase Company securities may not sell any Company securities of the same class for at least six months after the purchase;
- Covered Persons may not sell the Company's securities short;
- Covered Persons may not buy or sell puts or calls or other derivative securities on the Company's securities;
- Covered Persons may not hold Company securities in a margin account or pledge Company securities as collateral for a loan; and
- Covered Persons may not enter into hedging or monetization transactions or similar arrangements with respect to Company securities.

"**Covered Persons**" include:

- each director of the Company;

- each officer of the Company who has been designated by the Board of Directors as an executive officer for purposes of the reporting requirements and trading restrictions of Section 16 of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"); and

- any additional persons that either the Board of Directors, the Chief Financial Officer or General Counsel may designate from time to time as being subject to this Policy for Covered Persons by delivering to such persons a written notice of designation.

Additionally, in connection with each transaction in the Company's securities, Covered Persons are required to ensure (i) compliance with SEC Rule 144, if required; and (ii) the preparation of the requisite Forms 3, 4 or 5 to be filed with the SEC. Our legal counsel will assist you in the preparation and filing of such forms.

D. Blackout Periods

The period beginning with the last day of the last calendar month of each quarter and ending two (2) trading days following the date of public disclosure of the financial results for that quarter (the "**Quarterly Blackout Period**") is a particularly sensitive period of time for transactions in the Company's stock from the perspective of compliance with applicable securities laws. This sensitivity is due to the fact that officers, directors and certain other employees and consultants will, during that period, often possess material nonpublic information about the expected financial results for the quarter. Except as set forth in Section IV, no Covered Person, Insider or Consultant may trade in Company securities during a Quarterly Blackout Period, although the Board of Directors or Chief Financial Officer may waive the restriction if it is determined that such person does not possess material nonpublic information.

The Chief Financial Officer, in consultation with Company management, may, from time to time, designate special blackout periods ("**Special Blackout Periods**" and together with a Quarterly Blackout Period, a "**Blackout Period**") during which trading in Company securities by all Covered Persons, Insiders and Consultants shall be prohibited.

No Covered Person, Insider or Consultant may disclose to any outside third party that a Special Blackout Period has been designated.

IV. EXCEPTIONS

A. Exception for Pre-approved 10b5-1 Plans

Trades in the Company's securities that are executed pursuant to a 10b5-1 plan approved in advance by the Company are not subject to the prohibition on trading on the basis of material nonpublic information contained in this Policy or to the preclearance restrictions set forth above.

Components of a 10b5-1 Plan

Rule 10b5-1 under the Exchange Act provides an affirmative defense from insider trading liability under the federal securities laws for trading plans that meet certain requirements. In general, a 10b5-1 trading plan (a "**10b5-1 plan**") must be entered into before you are aware of

material nonpublic information. Once the plan is adopted, you must not exercise any influence over the amount of securities to be traded, the price at which they are to be traded or the date of the trade. The plan must either specify (including by formula) the amount, pricing and timing of transactions in advance or delegate discretion on those matters to an independent third party.

The Company requires that all 10b5-1 plans and any amendments to 10b5-1 plans be approved in writing in advance by the Chief Executive Officer, Chief Financial Officer or General Counsel. To establish a 10b5-1 plan, you must:

- Be an Insider;
- Contact the Company's finance team at stockadmin@iovance.com at least 25 business days prior to the start of the next Blackout Period to request instructions for creating a 10b5-1 plan with the Company's plan provider; and
- Submit the completed 10b5-1 plan to the Company's finance team, including all exhibits (in accordance with the instructions provided to you), at least 20 business days prior to the start of the next Blackout Period. Plans submitted to the Company's finance team will then be reviewed to ensure compliance with this policy and applicable securities laws. Any person that submits a 10b5-1 plan to the Company's finance team for review acknowledges that approval of such plan for submission to the Company's plan provider is within the sole discretion of the Company, and that the Company reserves the right to make any and all changes to the plan or to condition approval of the plan upon the acceptance of one or more changes to the plan.

10b5-1 plans submitted to the Company's finance team must be finalized and submitted to the Company's plan provider at least ten (10) business days prior to the start of the next Blackout Period, and must be countersigned by the Company's plan provider at least one (1) business day prior to the start of such Blackout Period (plans that are not submitted to or approved by the Company's plan provider within this timeframe will not become effective and will be deemed null and void, even if all of the other conditions of this section are satisfied. This applies to plans that are in process but have not yet been fully executed prior to the start of an unscheduled Special Blackout Period).

Once you receive approval of your 10b5-1 plan, you do not need clearance for any of your trades under such plan pursuant to Section III.C of this policy (for purposes of this section, the pre-clearance requirement specified in Section III.C is deemed satisfied upon review and approval of your 10b5-1 plan by the Company, as communicated to you by the Chief Financial Officer or General Counsel).

10b5-1 plans may only be adopted or amended while the person adopting or amending the plan is not aware of any material nonpublic information and while there is not currently a Blackout Period in effect.

Notwithstanding the foregoing, the Company may withhold or condition pre-clearance of any proposed 10b5-1 plan (each, a "**Proposed Plan**") for any reason, in the Company's sole discretion. Additionally:

1) The Company will not pre-clear a Proposed Plan if it concludes that the Proposed Plan:

   a) Fails to comply with the requirements of Rule 10b5-1, as amended from time to time;

   b) Would permit a transaction to occur before the later of (i) 90 days after adoption (including deemed adoption) of the Proposed Plan or (ii) two (2) business days after disclosure of the issuer's financial results in a Form 10-Q or Form 10-K for the quarter in which the Proposed Plan was adopted (subject to a maximum of 120 days after adoption of the Proposed Plan);

   c) Is established during a Blackout Period, or the Insider is unable to represent to the satisfaction of the Company that the Insider is not in possession of material nonpublic information regarding the Company;

   d) Lacks appropriate mechanisms to ensure that the Insider complies with all rules and regulations, including Rule 144, Rule 701, Form S-8, and Section 16 of the Exchange Act, applicable to securities transactions by the Insider;

   e) Does not provide the Company the right to suspend all transactions under the Proposed Plan if the Company, in its sole discretion, deems such suspension necessary or advisable, including suspensions to comply with any "lock-up" agreement the Company agrees to in connection with a financing or other similar events;

   f) Exposes the Company to liability under any other applicable state or federal rule, regulation or law;

   g) Creates any appearance of impropriety;

   h) Fails to meet guidelines established by the Company; or

   i) Otherwise fails to satisfy the Company for any reason.

2) Any modifications to or deviations from a 10b5-1 Plan are deemed to be the Insider entering into a new 10b5-1 Plan and, accordingly, require pre-clearance of such modification or deviation at least five (5) full trading days prior to entry into or modification of the 10b5-1 Plan and be accompanied by a copy of the plan.

3) Any termination of a 10b5-1 Plan must be immediately reported to the Company's finance team. If an Insider has pre-cleared a new 10b5-1 Plan (the "**Second Plan**") intended to succeed an earlier pre-cleared 10b5-1 Plan (the "**First Plan**"), the Insider may not affirmatively terminate the First Plan without pre-clearance at least five (5) full trading days prior to such termination because such termination is deemed to be entering into the Second Plan.

4) Neither the Company nor any of the Company's officers, employees or other representatives shall be deemed, solely by their pre-clearance of a Proposed Plan, to

have represented that it complies with Rule 10b5-1 or to have assumed any liability or responsibility to the Insider or any other party if the 10b5-1 Plan fails to comply with Rule 10b5-1.

5) Upon entering into or amending a 10b5-1 Plan, the Insider must promptly provide a copy of the plan to the Company and, upon request, confirm the Company's planned disclosure regarding the entry into or termination of a plan (including the date of adoption or termination of the plan, duration of the plan, and aggregate number of securities to be sold or purchased under the plan.

B. Exception for Stock Plans, Gifts, and Divorce Decrees

The following are exceptions to Section III of this Policy:

1) Exercise of a stock option granted under any of the compensation incentive plans approved by the Company (the "**Stock Plans**"). Note that this exception does not include a subsequent sale of the shares acquired pursuant to the exercise of the option under the Stock Plans.

2) Acquisition of shares under any stock purchase plan approved by the Company. Note that this exception does not apply to a subsequent sale of the acquired shares.

3) Any surrender of shares by the stockholder to the Company to satisfy the stockholder's tax withholding obligations as a result of the issuance of shares upon vesting of restricted stock units or other equity awards granted under the Stock Plans. Note that this exception does not include a subsequent sale of the shares by the stockholder acquired upon vesting of restricted stock units granted under the Stock Plans.

4) Bona fide gifts of securities are not deemed to be transactions for the purposes of this Policy. Whether a gift is truly bona fide will depend on the facts and circumstances surrounding each gift. The more unrelated the donee is to the donor, the more likely the gift would be considered "bona fide" and not a "transaction." For example, gifts to charities, churches and service organizations would clearly not be "transactions." On the other hand, gifts to dependent children followed by a sale of the "gift" securities in close proximity to the time of the gift may imply some economic benefit to the donor and, therefore, make the gift not bona fide.

5) Any surrender of vested shares by the stockholder pursuant to a final divorce decree and/or settlement agreement.

V. ADDITIONAL PROHIBITED TRANSACTIONS

The Company believes it is improper and inappropriate for Company personnel to trade in derivatives of the Company's securities. Therefore, it is the Company's policy that Covered Persons, Insiders and Consultants are prohibited from trading in derivatives of the Company's securities, which prohibition includes, but is not limited to, trading in short positions, such as put

options, trading in long positions, such as call options, and trading in hedging positions, under any circumstances.

VI. CONFIDENTIAL INFORMATION

In addition to the Company's Insider Trading Policy, the Company has strict policies relating to safeguarding the confidentiality of its internal, proprietary information. You should comply with these policies at all times. If you have any questions regarding these policies, please contact the Company's legal department.

VII. REPORTING OF VIOLATIONS

Any Insider who violates this Policy or any federal or state laws governing insider trading or tipping, or who knows of such violation by any other Insiders, must report the violation immediately to the Company's legal department by email at legal@iovance.com or by contacting Fred Vogt, General Counsel, by email at fred.vogt@iovance.com or by phone at 610.715.7577. Upon learning of any such violation, the Company's General Counsel and in-house legal department, in consultation with the Board of Directors, Chief Executive Officer, Chief Financial Officer and the Company's outside legal counsel, will determine whether the Company should release any material nonpublic information, or whether the Company should report the violation to the SEC, Nasdaq, or other appropriate governmental authority.

VIII. QUESTIONS ABOUT THIS POLICY

Compliance by all Covered Persons, Insiders and Consultants with this Policy is of the utmost importance to you and to the Company. Please direct all inquiries regarding this Policy to Jean-Marc Bellemin, Chief Financial Officer of the Company, by email at jean-marc.bellemin@iovance.com or by phone at 650.400.5345.

IX. AMENDMENT

The Company may amend this Policy from time to time as it deems appropriate.

Your failure to observe this Policy could lead to significant legal problems and **have other serious consequences, including termination of your employment.**

ACKNOWLEDGEMENT OF RECEIPT

I hereby acknowledge that I have received a copy of the Iovance Biotherapeutics, Inc., Insider Trading Policy (this "**Policy**") and agree to comply with its terms. I understand that violation of insider trading or tipping laws or regulations may subject me to severe civil and/or criminal penalties and that violation of the terms of this Policy may subject me to discipline by Iovance Biotherapeutics, Inc. and its subsidiaries up to and including termination for cause.

Signed: _____

Name (please print): _____

Date: _____

NOTIFICATION OF PROPOSED TRADE

To: Jean-Marc Bellemin, Chief Financial Officer of Iovance Biotherapeutics, Inc ("**Iovance**").

From: _____(Name of Insider)
Date: _____

(Please fill out that which is applicable)

I hereby notify the Chief Financial Officer that I intend to exercise _____ (number) of options/warrants (cross out the inapplicable word) of Iovance common stock on _____ (date), on behalf of _____ (indicate in whose name the shares will be registered).

I hereby notify the Chief Financial Officer that I intend to buy/sell (cross out the inapplicable word) _____ number of shares of Iovance common stock on _____ _(date) on behalf of _____ (indicate on whose names the shares will be registered).

Nature of the proposed trade: _____

In connection with the proposed trade, I hereby certify that:

1. I am not in possession of any "material nonpublic information" concerning Iovance, as defined in Iovance's "Insider Trading Policy" (the "**Policy**").

2. To the best of my knowledge, the proposed trade does not violate the trading restrictions of Section 16 of the Securities Exchange Act of 1934, as amended, or Rule 144 of the Securities Act of 1933, as amended.

I understand that if I trade while possessing such information or in violation of such trading restrictions, I may be subject to severe civil and/or criminal penalties and may be subject to sanctions by Iovance as set forth in the Policy.

Submitted by

_____
(Signature)

_____
(Name)

_____
(Title if signing on behalf of a corporation, partnership or other such entity)

Reviewed and approved/disapproved by the Chief Financial Officer

_____
Jean-Marc Bellemin
Chief Financial Officer

Date: _____

Exhibit 21.1

Subsidiaries Of The Company

Iovance Biotherapeutics GmbH, a company formed under the laws of Switzerland.

Iovance Biotherapeutics B.V., a company formed under the laws of The Netherlands.

Iovance Biotherapeutics Manufacturing LLC, a limited liability company formed under the laws of the Commonwealth of Pennsylvania.

Iovance Biotherapeutics UK Ltd, a limited company formed under the laws of The United Kingdom.

Iovance Biotherapeutics UK SP Ltd, a limited company formed under the laws of The United Kingdom.

Iovance Biotherapeutics Canada Inc., a company formed under the laws of Canada.

Iovance Australia Pty Ltd, a private limited company formed under the laws of Australia.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statements (Form S-3 No. 333-272718) of Iovance Biotherapeutics, Inc. and in the related Prospectuses,
(2) Registration Statement (Form S-8 No. 333-205097) pertaining to the 2011 Equity Incentive Plan of Iovance Biotherapeutics, Inc.,
(3) Registration Statement (Form S-8 No. 333-214567) pertaining to the 2014 Equity Incentive Plan of Iovance Biotherapeutics, Inc.,
(4) Registration Statement (Form S-8 No. 333-217638) pertaining to Maria Fardis RSUs of Iovance Biotherapeutics, Inc.,
(5) Registration Statements (Form S-8 Nos. 333-239316, 333-227242, 333-266544, 333-272602 and 333-281412) pertaining to the 2018 Equity Incentive Plan of Iovance Biotherapeutics, Inc.,
(6) Registration Statement (Form S-8 Nos. 333-239317,333-272601 and 333-281413) pertaining to the 2020 Employee Stock Purchase Plan of Iovance Biotherapeutics, Inc., and
(7) Registration Statement (Form S-8 Nos. 333-259752, 333-263503, 333-271810, 333-279287 and 333-283825) pertaining to the Amended and Restated 2021 Inducement Plan of Iovance Biotherapeutics, Inc.;

of our reports dated February 27, 2025, with respect to the consolidated financial statements of Iovance Biotherapeutics, Inc. and the effectiveness of internal control over financial reporting of Iovance Biotherapeutics, Inc. included in this Annual Report (Form 10-K) of Iovance Biotherapeutics, Inc. for the year ended December 31, 2024.

/s/ Ernst & Young LLP

San Mateo, California
February 27, 2025

CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Frederick G. Vogt, PhD., J.D., Interim Chief Executive Officer and President, and General Counsel of Iovance Biotherapeutics, Inc., certify that:

1. I have reviewed this Annual Report on Form 10-K of Iovance Biotherapeutics, 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 generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 27, 2025

/s/ Frederick G. Vogt, Ph.D., J.D.
Frederick G. Vogt, Ph.D., J.D.
Interim Chief Executive Officer and President, and General Counsel
(Principal Executive Officer)

CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jean-Marc Bellemin, Chief Financial Officer of Iovance Biotherapeutics, Inc., certify that:

1. I have reviewed this Annual Report on Form 10-K of Iovance Biotherapeutics, 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 generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 27, 2025

/s/ Jean-Marc Bellemin
Jean-Marc Bellemin
Chief Financial Officer
(Principal Financial Officer & Principal Accounting Officer)

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

I, Frederick G. Vogt, Ph.D., J.D., Interim Chief Executive Officer and President, and General Counsel, of Iovance Biotherapeutics, Inc. (Company), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- the Annual Report on Form 10-K of the Company for the year ended December 31, 2024 (Report) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

- the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

Date: February 27, 2025

/s/ Frederick G. Vogt, Ph.D., J.D.
Frederick G. Vogt, Ph.D., J.D.
Interim Chief Executive Officer and President, and General Counsel
(Principal Executive Officer)

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

I, Jean-Marc Bellemin, Chief Financial Officer of Iovance Biotherapeutics, Inc. (Company), do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

· the Annual Report on Form 10-K of the Company for the year ended December 31, 2024 (Report) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

· the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the periods presented therein.

Date: February 27, 2025

/s/ Jean-Marc Bellemin
Jean-Marc Bellemin
Chief Financial Officer
(Principal Financial Officer & Principal Accounting Officer)

Exhibit 97.1

IOVANCE BIOTHERAPEUTICS, INC.

DODD-FRANK CLAWBACK POLICY

Iovance Biotherapeutics, Inc. (the "**Company**") has adopted this clawback policy (this "**Policy**") as a supplement to any other clawback policies in effect now or in the future at the Company. To the extent this Policy applies to compensation payable to a person covered by this Policy, it shall be the only clawback policy applicable to such compensation and no other clawback policy shall apply; provided that, if such other policy provides that a greater amount of such compensation shall be subject to clawback, such other policy shall apply to the amount in excess of the amount subject to clawback under this Policy. This Policy shall be interpreted to comply with the clawback rules found in 17 C.F.R. §240.10D-1 and the related listing rules of The Nasdaq Stock Market LLC (the "**Exchange**"), and, to the extent this Policy is in any manner deemed to be inconsistent with such rules, this Policy shall be treated as retroactively amended to be compliant with such rules.

1. Definitions. 17 C.F.R. §240.10D-1(d) defines the terms "**Executive Officer**," "**Financial Reporting Measures**," "**Incentive-Based Compensation**," and "**Received**." As used herein, these terms shall have the same meanings as in that regulation, the current versions of which are re-stated below, as may be amended from time to time if that regulation is amended:

"**Executive Officer**" means the Company's president, principal financial officer, principal accounting officer (or if there is no such accounting officer, the controller), any vice-president of the Company in charge of a principal business unit, division, or function (such as sales, administration, or finance), any other officer who performs a policy-making function, or any other person who performs similar policy-making functions for the Company. Executive officers of the Company's parent(s) or subsidiaries are deemed executive officers of the Company if they perform such policy making functions for the Company. Policy-making function is not intended to include policy-making functions that are not significant.

"**Financial Reporting Measures**" means measures that are determined and presented in accordance with the accounting principles used in preparing the Company's financial statements, and any measures that are derived wholly or in part from such measures. Stock price and total shareholder return are also Financial Reporting Measures. A Financial Reporting Measure need not be presented within the financial statements or included in a filing with the U.S. Securities and Exchange Commission.

"**Incentive-Based Compensation**" means any compensation that is granted, earned, or vested based wholly or in part upon the attainment of a Financial Reporting Measure.

"**Received**" refers to the statement that Incentive-Based Compensation is deemed received in the Company's fiscal period during which the Financial Reporting Measure specified in the Incentive-Based Compensation award is attained, even if the payment or grant of the Incentive-Based Compensation occurs after the end of that period.

2. Application of this Policy. This Policy shall only apply in the event that the Company is required to prepare an accounting restatement due to the material noncompliance of the Company with any financial reporting requirement under the securities laws, including any required accounting restatement to correct an error in previously issued financial statements that is material to the previously issued financial statements, or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period. Furthermore, this Policy shall only apply to Executive Officers. Finally, this Policy shall apply to all Incentive-Based Compensation Received by an Executive Officer on or after October 2, 2023.

3. Recovery Period. The Incentive-Based Compensation subject to clawback is the Incentive-Based Compensation Received during the three completed fiscal years immediately preceding the date that the Company is required to prepare an accounting restatement as described in Section 2 of this Policy, provided that the person served as an Executive Officer at any time during the performance period applicable to the Incentive-Based Compensation in question. The date that the Company is required to prepare an accounting restatement shall be determined pursuant to 17 C.F.R. §240.10D-1(b)(1)(ii).

(a) Notwithstanding the foregoing, this Policy shall only apply if the Incentive-Based Compensation is Received (i) while the Company has a class of securities listed on the Exchange and (ii) on or after October 2, 2023.

(b) See 17 C.F.R. §240.10D-1(b)(1)(i) for certain circumstances under which this Policy will apply to Incentive-Based Compensation received during a transition period arising due to a change in the Company's fiscal year.

4. Erroneously Awarded Compensation. The amount of Incentive-Based Compensation subject to this Policy ("**Erroneously Awarded Compensation**") is the amount of Incentive-Based Compensation Received that exceeds the amount of Incentive Based-Compensation that otherwise would have been Received had it been determined based on the restated amounts and shall be computed without regard to any taxes paid.

(a) For Incentive-Based Compensation based on stock price or total shareholder return, where the amount of Erroneously Awarded Compensation is not subject to mathematical recalculation directly from the information in an accounting restatement: (i) the amount shall be based on a reasonable estimate of the effect of the accounting restatement on the stock price or total shareholder return upon which the Incentive-Based Compensation was received; and (ii) the Company must maintain documentation of the determination of that reasonable estimate and provide such documentation to the Exchange.

5. Recoupment. The Company shall recover reasonably promptly any Erroneously Awarded Compensation, except to the extent that the conditions of paragraphs (a), (b), or (c) below apply. The Compensation Committee (the "**Committee**") of the Board of Directors (the "**Board**") of the Company shall determine the repayment schedule for each amount of Erroneously Awarded Compensation in a manner that complies with this "reasonably promptly" requirement. Such

determination shall be consistent with any applicable legal guidance, by the U.S. Securities and Exchange Commission, judicial opinion, or otherwise. The determination of "reasonably promptly" may vary from case to case, and the Committee is authorized to adopt additional rules to further describe what repayment schedules satisfy this requirement.

(a) Erroneously Awarded Compensation need not be recovered if the direct expense paid to a third party to assist in enforcing this Policy would exceed the amount to be recovered and the Committee has made a determination that recovery would be impracticable. Before concluding that it would be impracticable to recover any amount of Erroneously Awarded Compensation based on expense of enforcement, the Company shall make a reasonable attempt to recover such Erroneously Awarded Compensation, document such reasonable attempt(s) to recover, and provide that documentation to the Exchange.

(b) Erroneously Awarded Compensation need not be recovered if recovery would violate home country law where that law was adopted prior to November 28, 2022. Before concluding that it would be impracticable to recover any amount of Erroneously Awarded Compensation based on violation of home country law, the Company shall obtain an opinion of home country counsel, acceptable to the Exchange, that recovery would result in such a violation and shall provide such opinion to the Exchange.

(c) Erroneously Awarded Compensation need not be recovered if recovery would likely cause an otherwise tax-qualified retirement plan, under which benefits are broadly available to employees of the registrant, to fail to meet the requirements of 26 U.S.C. 401(a)(13) or 26 U.S.C. 411(a) and regulations thereunder.

6. Sources of Recoupment. To the extent permitted by applicable law, the Committee may, in its discretion, seek recoupment of Erroneously Awarded Compensation from the Executive Officer(s) through any means it determines, which may include any of the following sources: (i) prior Incentive-Based Compensation payments; (ii) future payments of Incentive-Based Compensation; (iii) cancellation of outstanding Incentive-Based Compensation; (iv) direct repayment; and (v) non-Incentive-Based Compensation or securities held by the Executive Officer. To the extent permitted by applicable law, the Company may offset such amount against any compensation or other amounts owed by the Company to the Executive Officer.

7. Administration. This Policy is administered by the Committee. The Committee shall have full and final authority to make any and all determinations required or permitted under this Policy. Any determination by the Committee with respect to this Policy shall be final, conclusive and binding on all Executive Officers subject to this Policy, unless determined to be an abuse of discretion. The Board may amend this Policy at any time.

8. No Indemnification. Notwithstanding anything to the contrary in any other policy of the Company or any agreement between the Company and an Executive Officer, no Executive Officer shall be indemnified by the Company against the loss of any Erroneously Awarded Compensation.

9. 2018 Equity Incentive Plan, as Amended. The 2018 Equity Incentive Plan, as amended, provides that any award made pursuant to it is subject to (including on a retroactive basis) any clawback required by applicable law and/or the rules and regulations of the Exchange or any other securities exchange or inter-dealer quotation service on which the Company's common stock is listed or quoted and that such requirements shall be deemed incorporated by reference into all outstanding award agreements.

10. Agreement to Policy by Executive Officers. The Committee shall take reasonable steps to inform Executive Officers of this Policy and obtain their agreement to this Policy, which steps may constitute the inclusion of this Policy as an attachment to any award that is accepted by the Executive Officer or the execution of an acknowledgement and agreement to this Policy by such Executive Officer.

This Policy was adopted by the Board on November 17, 2023.