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, 2020

OR

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

Commission file number: 001-37507

NANTKWEST, INC.

(Exact name of Registrant as specified in its Charter)

Delaware	**43-1979754**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
3530 John Hopkins Court San Diego, California	**92121**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (858) 633-0300

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 $0.0001 per share	**NK**	**The Nasdaq Stock Market LLC (Nasdaq Global Select Market)**

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

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

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

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

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

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

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

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

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

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES ☐ NO ☒

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the Registrant, based on the closing price of the shares of common stock on the Nasdaq Global Select Market on June 30, 2020, was approximately $415.4 million.

The number of shares of the Registrant's common stock outstanding as of March 3, 2021 was 109,344,573.

DOCUMENTS INCORPORATED BY REFERENCE

As noted herein, the information called for by Part III of this Annual Report on Form 10-K is incorporated by reference to specified portions of the Registrant's definitive proxy statement to be filed in conjunction with the Registrant's 2021 Annual Meeting of Stockholders, which is expected to be filed not later than 120 days after the Registrant's fiscal year ended December 31, 2020.

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Explanatory Note

As used in this Annual Report on Form 10-K, or Annual Report, for the year ended December 31, 2020, the terms "NantKwest," "the company," "our," "us" or "we" refer to NantKwest, Inc. and/or its subsidiaries.

PART I

Forward-Looking Statements

This Annual Report on Form 10-K, or this Annual Report, may contain "forward-looking statements" within the meaning of the federal securities laws made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under Part I, Item 1A, "*Risk Factors*", in this Annual Report. Except as required by law, we assume no obligation to update these forward-looking statements, whether as a result of new information, future events or otherwise. These statements, which represent our current expectations or beliefs concerning various future events, may contain words such as "may," "will," "expect," "anticipate," "intend," "plan," "believe," "estimate" or other words indicating future results, though not all forward-looking statements necessarily contain these identifying words. Such statements may include, but are not limited to, statements concerning the following:

- our ability to pioneer immunotherapy, harness the power of the innate immune system, implement precision cancer medicine and change the current paradigm of cancer care;
- our ability to implement and support the Joint COVID-19 Collaboration;
- our ability to consummate the proposed merger with ImmunityBio, Inc.;
- any impact of the coronavirus pandemic, or responses to the pandemic, on our business, clinical trials or personnel;
- our expectations regarding the potential benefits of our strategy and technology and the proposed merger with ImmunityBio, Inc.;
- our expectations regarding the operation of our product candidates and related benefits;
- our ability to utilize multiple modes to induce cell death;
- our beliefs regarding the benefits and perceived limitations of competing approaches, and the future of competing technologies and our industry;
- details regarding our strategic vision and planned product candidate pipeline, including that we eventually plan to advance therapies for virally induced infectious diseases;
- our beliefs regarding the success, cost and timing of our product candidate development activities and current and future clinical trials and studies, including study design;
- our expectations regarding our ability to utilize the phase I and II aNK and haNK clinical trials data to support the development of all of our product candidates, including our haNK, taNK, t-haNK, MSC and ceNK product candidates;
- the timing or likelihood of regulatory filings or other actions and related regulatory authority responses, including any planned investigational new drug, or IND, filings or pursuit of accelerated regulatory approval pathways or orphan drug status and breakthrough therapy designations;
- our ability to implement an integrated discovery ecosystem and the operation of that planned ecosystem, including being able to regularly add neoepitopes and subsequently formulate new product candidates;
- the ability and willingness of strategic collaborators, including NantWorks, LLC, or NantWorks, and its affiliates, to share our vision and effectively work with us to achieve our goals;
- the ability and willingness of various third parties, as well as related parties, to engage in research and development activities involving our product candidates, and our ability to leverage those activities;
- our ability to attract additional third party collaborators;
- our expectations regarding the ease of administration associated with our product candidates;
- our expectations regarding the patient compatibility associated with our product candidates;
- our beliefs regarding the potential markets for our product candidates and our ability to serve those markets;
- our ability to produce an "off-the-shelf" therapy;
- our beliefs regarding the potential manufacturing and distribution benefits associated with our product candidates, and our ability to scale up the production of our product candidates;
- our plans regarding our manufacturing facilities and our belief that our manufacturing is capable of being conducted in-house;

- our belief in the potential of our aNK cells as a technology platform, and the fact that our business is based upon the success of our aNK cells as a technology platform;
- our aNK platform and other product candidate families, including genetically modified haNK, taNK, t-haNK, MSC and ceNK product candidates, will require significant additional clinical testing;
- even if we successfully develop and commercialize our haNK and t-haNK product candidates, we may not be successful in developing and commercializing our other product candidates either alone or in combination with other therapeutic agents;
- the ability to obtain and maintain regulatory approval of any of our product candidates, and any related restrictions, limitations and/or warnings in the label of any approved product candidate;
- our ability to commercialize any approved products;
- the rate and degree of market acceptance of any approved products;
- our ability to attract and retain key personnel;
- the accuracy of our estimates regarding our future revenue, as well as our future operating expenses, capital requirements and needs for additional financing;
- our ability to obtain funding for our operations, including funding necessary to complete further development and any commercialization of our product candidates;
- our ability to obtain and maintain intellectual property protection for our product candidates and not infringe upon the intellectual property of others;
- regulatory developments in the United States, or U.S., and foreign countries; and
- our expectations regarding the period during which we qualify as a "smaller reporting company," as defined in Rule 12b-2 of the Securities Exchange Act of 1934.

In addition, you should refer to Part I, Item 1A, "*Risk Factors*" of this Annual Report for a discussion of other important factors that may cause actual results to differ materially from those expressed or implied by the forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this Annual Report will prove to be accurate. Furthermore, if one or more of these forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

This Annual Report also contains estimates, projections and other information concerning our industry, our business, and the markets for certain diseases, including data regarding the estimated size of those markets, and the incidence and prevalence of certain medical conditions. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained this industry, business, market, and other data from reports, research surveys, studies, and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data, and similar sources.

Item 1. Business.

Overview

We are a pioneering clinical-stage immunotherapy company focused on harnessing the power of the innate immune system by using our natural killer cells, or NK cells, to treat cancer and viral infectious diseases. NK cells are the body's first line of defense due to their innate ability to rapidly seek and destroy abnormal cells, such as cancer or virally infected cells, without prior exposure or co-activation by other support molecules that are typically required to train and activate adaptive immune cells such as T-cells.

A critical aspect of our strategy is to invest significantly in innovating new therapeutic candidates, based upon our proprietary activated NK, or aNK, cell platform, and conducting clinical testing and scale manufacturing of our most promising biologic product candidates. We believe our aNK cell is capable of being manufactured as a cell-based "off-the-shelf" therapy that can be molecularly engineered in a variety of ways to boost its killing capabilities against cancers and virally infected cells.

We retain worldwide commercial rights to clinical and research data, intellectual property and know-how developed with our aNK cells, as well as clinical grade master and working cell banks of aNK, haNK and t-haNK cell lines.

Agreement and Plan of Merger with ImmunityBio, Inc.

On December 21, 2020, NantKwest and ImmunityBio, Inc. (ImmunityBio) entered into an Agreement and Plan of Merger (the Merger Agreement), pursuant to which NantKwest and ImmunityBio agreed to combine their businesses. The Merger Agreement provides that a wholly owned subsidiary of NantKwest will merge with and into ImmunityBio (the Merger), with ImmunityBio continuing as the surviving company and being renamed NantCell, Inc., upon the terms and subject to the conditions therein. At the effective time of the Merger (the Effective Time), NantKwest's name, as the parent of NantCell, Inc., will be changed to "ImmunityBio, Inc."

At the Effective Time, each share of ImmunityBio common stock issued and outstanding immediately prior to the Effective Time, subject to certain exceptions as set forth in the Merger Agreement, will be converted automatically into a right to receive 0.8190 shares of NantKwest common stock. At the Effective Time, each share of NantKwest common stock issued and outstanding immediately prior to the Effective Time, will remain an issued and outstanding share of the combined company. At the Effective Time, each outstanding option, warrant or restricted stock unit to purchase ImmunityBio common stock will be converted (using the merger exchange ratio of 0.8190) into an option, warrant or restricted stock unit, respectively, on the same terms and conditions immediately prior to the Effective Time, to purchase shares of common stock of the combined company.

Upon consummation of the Merger, on a fully-diluted basis, ImmunityBio stockholders and NantKwest stockholders will own approximately 72% and 28%, respectively, of the outstanding shares of common stock of the combined company. It is estimated that, immediately following the closing date, Dr. Patrick Soon-Shiong, our Executive Chairman and principal stockholder, and his affiliates will beneficially own, in the aggregate, approximately 82% of the common stock of the combined company.

Following consummation of the Merger, shares of common stock of the combined company are expected to be listed on the Nasdaq Global Select Market under the symbol "IBRX".

Under the terms and subject to the conditions set forth in the Merger Agreement, the closing of the Merger depends on a number of conditions being satisfied, including approval of the Merger by holders of a majority of the outstanding shares of NantKwest common stock as of the NantKwest record date (excluding all shares of NantKwest common stock beneficially owned by Dr. Patrick Soon-Shiong and his affiliates Cambridge Equities, LP and Chan Soon-Shiong Family Foundation or any of their respective controlled affiliates or any of the directors or executive officers of NantKwest or ImmunityBio).

On February 1, 2021, our Registration Statement on Form S-4, which was filed with the Securities and Exchange Commission (SEC) in connection with the Merger, was declared effective by the SEC.

A special meeting of the stockholders of NantKwest will be held on March 8, 2021 to consider and vote on a proposal to approve the issuance of shares of common stock of NantKwest to security holders of ImmunityBio, and to consider and vote on a proposal to approve the Merger. Only holders of record of NantKwest common stock at the close of January 29, 2021, will be entitled to notice of and to vote at the special meeting.

We expect the Merger to close in the first quarter of 2021, subject to receipt of the requisite stockholder approvals and satisfaction of other customary closing conditions.

The Merger is expected to be accounted for as a transaction between entities under common control as Dr. Patrick Soon-Shiong is the controlling stockholder of each of NantKwest and ImmunityBio. Upon the closing of the Merger, the net assets of ImmunityBio will be combined with those of NantKwest at their historical carrying amounts and the companies will be presented on a combined basis for all historical periods presented.

Our Off-the-Shelf Approach

Multiple Modes of aNK Directed Tumor Cell Killing. Our NK platform has demonstrated the ability to induce cell death in cancers and virally infected cells through a variety of concurrent mechanisms including:

i. *Innate Killing*, whereby all of our NK platforms, aNK, haNK, taNK and t-haNK, recognize the abnormal proteins typically found on the surfaces of metabolically stressed cells, which upon binding, release toxic granules to immediately kill their targets;

ii. *Antibody-Mediated Killing* with our haNK and t-haNK platforms, which are aNK cells engineered to express antibody receptors that can bind to therapeutically administered antibody products or to antibodies naturally produced in the body, thereby enhancing the cancer cell killing effects of those antibodies through Antibody Dependent Cellular Cytotoxicity, or ADCC; and

iii. *CAR-Directed Killing* with our taNK and t-haNK platforms, which are aNK cells engineered to express chimeric antigen receptors, or CARs, that target tumor-specific proteins commonly found only on the surfaces of cancer cells and upon binding, induce cell death through the release of toxic granules directly into their targets and by the release of cytokines and chemokines, which recruit additional innate and adaptive immune responses, including the recruitment of cytotoxic T-cells.

All three modes of killing; *Innate Killing, Antibody-Mediated Killing, and CAR-Directed Killing*, are employed by our proprietary t-haNK platform, which combines all the enhanced NK killing functions of aNK, haNK and taNK into a single product platform.

Our primary target therapeutic area is cancer, with a heavy emphasis on solid tumors. According to the National Cancer Institute, almost 1.9 million new cancer cases are expected to be diagnosed in the U.S. during 2021, adding to the 16.9 million already living with cancer. In addition, we plan to advance therapies for hematologic malignancies and virally induced infectious diseases.

Innate Killing—the aNK Platform. We have developed a unique NK cell platform, which we believe is capable of being manufactured as a cell-based "off-the-shelf" therapy that can be molecularly engineered in a variety of ways to boost its killing capabilities against cancers and virally infected cells. Unlike normal natural killer cells, our NK cells do not express the key inhibitory receptors that diseased cells often exploit to turn off the killing function of natural killer cells and escape elimination. We have developed a unique aNK cell, which omits key inhibitory receptors, while preserving critical activation receptors that enable selective innate targeting and killing of distressed and diseased cells. They do so through the recognition and binding of stress-proteins that are overexpressed on the surfaces of

i. rapidly growing cancer cells due to oxidative and metabolic stress, nutrient deprivation and waste accumulation that typically occurs when cell growth outpaces the capacity of local circulation; and

ii. virally infected cells where the cellular machinery is hijacked to produce an abundance of viral proteins and virions.

Our aNK cells are also designed to deliver a more lethal blow to their target by delivering a larger payload of lytic enzymes and cytokines responsible for both direct and indirect killing when compared to other natural killer cells isolated from healthy donors. This is due to the higher density of lytic granules and larger cell volume possessed by aNK cells when compared to that of donor-derived natural killer cells. We believe that our aNK cells can be produced at commercial scale as a 'living drug' using our proprietary manufacturing and distribution processes to adequately address select global cancer markets.

Several phase I safety studies with unmodified aNK cells have been conducted in a variety of bulky hematological cancers and solid tumors, enrolling 46 patients in a range of dose levels and schedules with encouraging evidence of single-agent activity and a durable remission, including some complete responses in liquid tumors. Based on these earlier clinical trials, we have further modified our aNK platform through virus-free molecular engineering designed to leverage additional modes of killing available to aNKs, including antibody-mediated killing, the haNK platform, and both antibody-mediated and CAR-directed antigen targeted killing, the t-haNK platform.

Antibody-Mediated Killing—the haNK Platform. We have genetically engineered our aNK cell platform using a virus-free method to overexpress high-affinity CD16 receptors, which bind to antibodies. These antibody-targeted haNK cells are designed to directly bind to IgG1-type antibodies, such as avelumab, trastuzumab, cetuximab and rituximab with the intention of enhancing the cancer-killing efficacy of these antibodies by boosting the population of competent natural killer cells that can kill cancer cells through ADCC. Antibody products are abundantly utilized to treat cancer and it is estimated that they generate over $100 billion in reported annual sales. A growing number of studies suggest that clinically meaningful responses to these antibody therapies correlate directly with the overall health of a patient's natural killer cell population and whether they express the high-affinity variant of the CD16 receptor. Currently available literature estimates that only approximately 10% to 15% of the addressable patient population eligible for antibody therapies carry high-affinity CD16 receptors. This implies that our haNK product candidate may have significant market potential as a combination therapy to potentially address a large number of patients who do not carry high-affinity CD16 receptors and, as a result, exhibit a poorer response to antibody therapies. We therefore intend to develop our haNK product candidate as a combination therapy with widely-used U.S. Food and Drug Administration, or FDA, approved antibody products such as avelumab, trastuzumab, cetuximab and rituximab. Current Good Manufacturing Practice, or cGMP, master and working cell banks of our haNK product candidate have been successfully established and will serve as our source for product for our clinical trials and, if approved, commercialization going forward. We have optimized our manufacturing process partly by designing our haNK product candidate to not require IL-2 cytokine supplementation to the growth media every few days, thereby enabling us to overcome a technically challenging and costly limitation that many other natural killer cell-based therapies face. We have also successfully established processes for large-scale production, cryopreservation and long-term storage of final dose forms, thereby optimizing production efficiencies and allowing for on-demand availability with minimal handling at the infusion sites. Our cryopreserved haNK product candidate has been cleared for clinical testing in several phase Ib/II clinical trials, including our phase II Merkel cell cancer study.

CAR-Directed Killing—the taNK Platform. We have genetically engineered our aNK platform to express CARs that target tumor-specific antigens found on the surfaces of cancers and virally infected cells. Our taNK cells are designed to bind directly to these surface antigens and induce cell death through the release of toxic granules directly into the tumor cells and release of cytokines and chemokines to recruit additional innate and adaptive immune responses, including the recruitment of cytotoxic T-cells. These tumor antigens include checkpoint ligands, such as PD-L1 and B7-H4 as well as well-established tumor proteins such as CD19, HER2 and EGFR, all of which can be targeted individually by our engineered taNK products.

Preclinical evidence has been mounting which indicates that taNK cell activation through the binding of its CAR receptors to these cancer specific proteins may be potent enough to override many of the pre-existing inhibitory signals and immunosuppressive factors present in the tumor microenvironment that may be responsible for tumor resistance.

CAR-Directed and Antibody-Mediated Killing—the t-haNK Platform. Our newest and most promising platform for the development of therapeutic product candidates is an innovative, bioengineered combination of our haNK and taNK platforms that incorporates all the features of our haNK platform together with a CAR. The resulting line of product candidates under this platform avails itself to all three modes of killing: *innate*, *antibody-mediated* and *CAR-directed killing*. These product candidates also include one or more additional expression elements such as functional cytokines, chemokines and trafficking factors, making them amongst the most versatile in our portfolio. These product candidates are intended to be combined with commercially available therapeutic antibodies to effectively target either two different epitopes of the same cancer specific protein or two entirely different cancer specific proteins. In addition to our two t-haNK product candidates, PD-L1.t-haNK, currently in phase II testing, and CD19.t-haNK, cleared to commence phase I testing, we believe a pipeline of prominent CARs for t-haNK, including HER2 and EGFR, which are nearing IND submission, and others that are advancing through clinical enabling studies, will enable us to potentially address an even broader range of cancers as part of a chemotherapy-free combination regimen.

The Nant Cancer Vaccine. The Nant Cancer Vaccine, or NCV, program is a personalized therapy regimen, which utilizes our "off-the-shelf" NK cell platform as the backbone of the regimen. NCV consists of an initial tumor-conditioning regimen followed by a molecularly-informed immunologic conditioning therapy. More specifically, NCV combines the novel delivery of metronomic, albumin-linked low-dose chemotherapy in conjunction with certain other agents, followed by a sequenced administration of tumor-associated antigen vaccines and an IL-15 superagonist fusion protein, all of which potentiate our NK cell therapy to potentially drive immunogenic cell death while avoiding the ravages of toxic high-dose chemotherapy. By inducing immunogenic cell death and enhancing a patient's innate and adaptive immune system, NCV is designed to attain a long-term, durable response in multiple cancer types with a potential for lower toxicity and improved efficacy and quality of life in comparison with current standards of care. We believe ultimately that employing our NK cell therapy in the context of NCV will be a highly effective combination for long term clinical success over available standards of care that employ maximum tolerated dose, tolerogenic cell death and immune system compromise.

Potential Advantages of Our aNK Platform Over T-Cell and Other Current Immunotherapies

The immune system has two components: innate immune cells, such as natural killer cells, which are always primed and ready to attack diseased cells, and adaptive immune cells, such as T-cells, which are recruited and educated through a series of antigen presentation and clonal expansion, eventually mounting a delayed response. Our proprietary aNK platform is specifically designed to potentially address many of the limitations associated with current adaptive autologous cellular immunotherapies. We believe key limitations of adaptive autologous immunotherapy are the need to isolate adequate amounts of naive T-cells from a cancer patient in a lengthy procedure called leukapheresis and the requirement for a complex individualized genetic transfection and expansion campaign to manufacture each patient's therapy. As a consequence, current autologous CAR-T cell therapies, in large part, are limited to patients from highly selected hematological cancers and leave many patients ineligible for treatment. Additionally, patients must undergo lympho-depleting chemotherapy prior to receiving CAR-T therapy and rely on engraftment, thereby exposing themselves to life-threatening serious adverse events for extended periods. For instance, recipients of CD19 CAR-T therapy develop life-long B-cell aplasia and hypogammaglobulinemia, requiring immunoglobulin infusion therapy. Acutely, patients may develop cytokine release syndrome or acute or chronic neurotoxicities. Due to these and other events, treatment with CAR-T requires intensive inpatient and long term monitoring. In contrast, our allogeneic "off-the-shelf" NK cells can be infused in the outpatient setting and do not rely on the patient as the source of suitable immune cells for processing, thereby availing every cancer patient as a potential candidate for on-demand treatment. In addition, our NK cell therapy is intended to be combined with immune potentiating agents, rather than immuno-depleting agents with the interest of driving a more natural and long-lasting adaptive immune response. This is largely due to the unique versatility of our cell products, which more closely approximates the characteristics of a drug rather than a transplant. Most cell-based immunotherapies are limited to one or a constrained number of doses due to product limitations and cost burdens, thereby

driving the need for immune-ablative therapies and reliance on long-term engraftment to achieve clinically meaningful results. In comparison, our NK cell based therapies can be re-dosed regularly throughout the year and at much higher dose levels without the same product limitations, cost burdens, reliance on long-term engraftment and potential exposure to long-term toxicities.

For these reasons, we believe that our approach includes the following advantages:

- ***Innate immune response.*** aNK platform products are always activated and can naturally detect and rapidly destroy a wide variety of diseased cells without prior exposure to antigens or activation by stimulatory molecules.
- ***Promotion of adaptive immune response.*** aNK platform products stimulate the adaptive component of the immune system by producing chemokines and other molecules that recruit and activate T-cells directly and through dendritic cells to attack cancers.
- ***Enhancement of ADCC effect with CD16 expressing haNK cells.*** Our haNK product candidates may have significant market potential as a combination therapy with approved monoclonal antibodies, or mAbs, targeting tumor associated antigens, as well as neoepitope induced antibodies, potentially addressing a large number of patients who have poor responses to antibody products.
- ***Wide therapeutic potential across multiple tumor types and even late-stage disease.*** In preclinical studies and phase I and II clinical trials to date, aNK, haNK and t-haNK cells have demonstrated activity in a spectrum of cancers, including bulky hematological cancers and solid tumors, as well as late-stage cancer patients who have failed multiple rounds of chemotherapy, radiation and stem cell transplantation.
- ***Ability to attack cancer stem cells.*** aNK cells have been shown in preclinical studies to preferentially attack cancer stem cells, which have demonstrated resistance to conventional chemotherapy.
- ***Applications in diseases beyond cancer.*** We believe aNK platform products have the potential to treat diseases beyond cancer, such as viral infectious diseases because of the inherent ability of natural killer cells to kill virally infected cells. Preclinical studies in HIV, HCV, EBV and Ebola viruses demonstrate this capability.
- ***Well tolerated.*** aNK platform products are hypo-immunogenic and have shown no dose limiting toxicities in over 900 patient infusions, including in recipients who have received long-term repeat infusions beyond a year.
- ***Ease of administration.*** aNK platform products have been administered in outpatient facilities, potentially offering physicians the flexibility to re-dose therapy in the ambulatory setting for extended periods and in large practices.
- ***Virtually universal patient compatibility.*** aNK platform products do not require patient-donor matching or a minimum level of patient immuno-competence.
- ***Low-cost, efficient and scalable manufacturing.*** aNK, haNK, taNK and t-haNK cells have the potential to be expanded on a large scale and readily supplied on demand from what we believe is the world's only cGMP compliant aNK, haNK and t-haNK cell banks, proprietary assets of our company.

Experienced Management Team

Since the founding of our company in 2002, we have assembled a team of proven, experienced and visionary leaders in biotechnology. Our team is led by Patrick Soon-Shiong, MBBch, FRCS (C), FACS, who has served as our Chairman since March 2015. Dr. Soon-Shiong was first introduced to us in 2007 when our technology was at a very early stage of development and he provided us with advice and scientific development strategies, including demonstration of activity in the clinical setting following irradiation of the cells and demonstration of safety and activity following multiple infusions in patients with both end-stage solid and liquid tumors. Dr. Soon-Shiong made an equity investment in our company in December 2014 and joined as our Chief Medical Officer in January 2015. Dr. Soon-Shiong became our Chairman in March 2015 and served as our Chief Executive Officer, or CEO, from March 2015 until October 2020. Effective October 2020, Dr. Soon-Shiong has served as our Executive Chairman of the board of directors.
Dr. Soon-Shiong, a renowned surgeon and scientist, has pioneered novel therapies for both diabetes and cancer, published over 100 scientific papers in the U.S., and has been issued over 230 worldwide patents on groundbreaking advancements spanning a myriad of fields. He performed the first encapsulated islet stem cell transplant in a diabetic patient in the U.S. He invented, developed and launched the first nanoparticle delivery system of human albumin, abraxane. Dr. Soon-Shiong was founder, Chairman and CEO of American Pharmaceutical Partners (sold to Fresenius SE for approximately $4.6 billion in 2008), Abraxis BioScience (sold to Celgene Corporation for approximately $3.8 billion in 2010), and NantWorks, an ecosystem of companies to create a transformative global health information and next generation pharmaceutical development network.

Richard Adcock was appointed as our CEO in October 2020. Prior to joining NantKwest, Mr. Adcock served as CEO of Verity Health from January 2018 to September 2020. Verity Health was previously affiliated with Dr. Soon-Shiong until 2018. Prior to Verity Health, Mr. Adcock served in various capacities at Sanford Health, including as its Chief Innovation Officer, President, Executive Vice President and Director from 2004 to 2017. Prior to Sanford Health, Mr. Adcock served as Global Engineering Director at GE Healthcare from 1999 to 2003.

Barry Simon, M.D., our President and Chief Administrative Officer, who was our CEO from May 2007 until March 2015 and our President and Chief Operating Officer from March 2015 to December 2016, brings decades of drug development and executive leadership experience from Roche Labs, F. Hoffmann-La Roche, Connetics Corp. and Immunomedics, having successfully contributed to Biologics License Applications, or BLAs, and commercial drug launches for Xeloda, Pegasys, Kytril, Fortovase, Valcyte, Fuzeon and Tamiflu.

We have experienced executives leading our research and development, manufacturing, preclinical and clinical development, regulatory and medical affairs, finance and other critical areas of our business, and we continue to build our manufacturing and administrative infrastructure.

Company Vision

We aspire to be the premier immunotherapy company, with the ultimate goal of harnessing the power of the innate immune system—with the NK cell at its core—to pioneer precision medicine in treatments for cancers and viral infectious diseases.

Our Core Strategies

Our goal of becoming the world leader in immunotherapy for cancers and other diseases can be realized through a major reframing of how we apply the collective knowledge amassed in this field to date. This starts with precisely determining the ‘molecular address’ of the target disease and leveraging this knowledge in the selection and staging of both tumor and immune conditioning agents in accordance with our understanding of biological mechanisms of action and the natural order of immune biology. Metronomic, low-doses of certain agents would be utilized to potentiate cellular stress and boost tumor immunogenicity, while an array of other agents would be applied selectively and sequentially to propagate a meaningful and lasting adaptive immune response. We believe that by utilizing the NK cell as the backbone and central coordinator as we engage and sequentially orchestrate the entire ecosystem of immune cells, we can effectively empower the patient’s own immune system to regain control by becoming its own ‘drug factory’ that can establish and once again maintain a cancer-free environment in the body. The key elements of our strategy include:

- ***Pursuit of both accelerated regulatory pathways and large market opportunities.*** We are pursuing a comprehensive clinical development plan designed to maximize the commercial potential of our haNK and t-haNK platforms as the backbone in the treatment of cancers in a streamlined combination with a PD-L1 checkpoint inhibitor and a highly selective and molecularly enhanced IL-15 superagonist fusion protein. We intend to pursue accelerated regulatory approval pathways and seek indications that can lead to orphan drug status and breakthrough therapy designation, as well as pursue large market opportunities in select solid tumors in the shortest feasible timeframe.
- ***Advance our next-generation t-haNK products towards phase II and registration trials.*** Our broadly applicable t-haNK product, PD-L1.t-haNK, is currently undergoing testing in a phase II trial in pancreatic cancers and has received FDA authorization to begin testing in non-small cell lung cancers with an additional phase II trial submission in triple negative breast cancers with concurrent chemotherapy in preparation for submission. Additionally, our CD19.t-haNK IND application has been approved by the FDA for a dose escalation phase I study in patients with CD19 expressing diffuse large B-cell lymphomas and our HER2.t-haNK IND application is nearing completion and being readied for submission with the FDA during the first half of 2021. Additions to our pipeline of near-term IND-ready t-haNK product candidates include an EGFR t-haNK product during the second half of 2021.
- ***Progress our lead haNK product candidate through phase II and registration trials.*** We are leveraging the combined human safety and activity data accumulated to date on haNK therapy to conduct our multi-center phase II trial in patients with Merkel cell carcinoma who have relapsed on checkpoint therapy.

- ***Leverage our exclusive co-development agreement with ImmunityBio for N-803.*** As with the emergence of dozens of CAR-T companies following the success of a select few, more and more natural killer cell therapy companies are forging ahead into the cancer immunotherapy space. Due to the lack of market access to suitable companion products for co-development, such as cytokine therapies, many natural killer cell therapy developers are following the path of CAR-T sponsors in the use of myeloablative therapies that support engraftment, but at the same time suppresses immune recruitment and the recipient's ability to mount an adaptive immune response. N-803 is an experimental IL-15 superagonist fusion protein, currently in late stage registration trials by ImmunityBio, Inc., an affiliated entity. Our utilization of N-803 in combination with our NK therapies across our clinical program affords us an additional distinction and competitive advantage where we combine systemic activation of recipient natural killer and T-cells with chemotherapy-free treatment regimens for maximal immune response and memory T-cell formation.
- ***Pursue partnering opportunities with pharmaceutical companies for commercially approved antibodies and select late-stage antibodies in development.*** Numerous biopharmaceutical companies have previously licensed our research-grade haNK cells through an affiliated entity for non-therapeutic applications that facilitate the discovery, selection and validation of their antibody candidates for development. A growing number of these biopharmaceutical companies have also licensed our cells for use in their antibody manufacturing and testing procedures in order to satisfy requirements by the FDA and comparable foreign regulatory agencies. There may be multiple opportunities to leverage these biopharmaceutical business relationships to forge therapeutic collaborations to conduct clinical studies with our haNK and t-haNK product candidates in combination with their late-stage and commercial antibody products to demonstrate enhanced activity when used in combination.
- ***Accelerate clinical development of our t-haNK products by implementing phase Ib/II basket trials.*** A growing number of antibody and other anti-cancer products are being marketed for multiple cancer types that share the same molecular abnormality. We plan to accelerate clinical development of our PD-L1.t-haNK, CD19.t-haNK and HER2.t-haNK product candidates by designing trials that permit the enrollment of patients whose cancers demonstrate high levels of PD-L1, CD19 and HER2, respectively, from a number of select cancer types. We believe this approach will enhance the development potential of our t-haNK product pipeline.
- ***Employ an adaptive approach to our clinical trials designs.*** As we explored complex combinations in our NCV trials that combined tumor conditioning agents, IL-15 cytokine activation, adenoviral and yeast vaccine driven dendritic cell activation and antibody therapy together with our haNK cell therapy across multiple tumor types, we continued to optimize the treatment design over time after accumulating sufficient outcome observations through IND amendments and new IND filings. By doing so, we were able to considerably condense the development time frame while providing patient access to the enhanced protocol designs much sooner than would have otherwise been possible.
- ***Establish low-cost, scalable manufacturing capabilities to support late-stage clinical trials and global commercialization.*** We believe our aNK platform product candidates offer unique advantages of a simplified, on-demand manufacturing process that is relatively easy to scale and requires minimal handling at the site of infusion. We opened our second state-of-the-art commercial production facility in El Segundo, California at the beginning of 2021 and transferred all of our t-haNK manufacturing operations from our first facility in El Segundo. We believe this new facility is capable of producing clinical product for all our clinical trials for multiple product lines. We have developed novel manufacturing methods, including the use of proprietary equipment that employs state-of-the-art optics, as well as proprietary media, designed to maximize the attributes of our NK product lines. We have eliminated the need for IL-2 media supplementation in all of our bioreactors and product lines, thereby simplifying the expansion process and shortening the culturing times while significantly reducing production costs. We have also implemented proprietary cryopreservation methods that enable large-scale production yields that can be easily processed into final frozen dose forms for long-term storage and simple, on-demand shipping. Cryopreservation allows for significant cost efficiencies and the establishment of a substantial commercial pipeline supply, much like shelf-stable pharmaceutical drugs. We have effectively eliminated reliance on third party contract manufacturers, with the associated risks to cost, time and reliability. We plan to continue to improve our costs as we scale up production to larger capacity bioreactors that can support serial harvests, the utilization of consumables that will support fully automated production lines from harvest to cryopreserved product and establish additional efficiencies across products pipelines.
- ***Pursue opportunities with vaccine combination partnerships that drive in vivo production of anti-cancer antibodies for ADCC killing with haNK and t-haNK cells.*** Upon achieving initially anticipated BLAs for our haNK and PD-L1.t-haNK products in simple combinations with N-803 and a monoclonal antibody, we plan to initiate a wide range of combination therapy studies that incorporate adenoviral and yeast vaccine platforms to deliver tumor associated antigens which induce the natural production of IgG1-type antibodies in patients, and when combined with our haNK and t-haNK products, would be expected to potentiate ADCC killing.

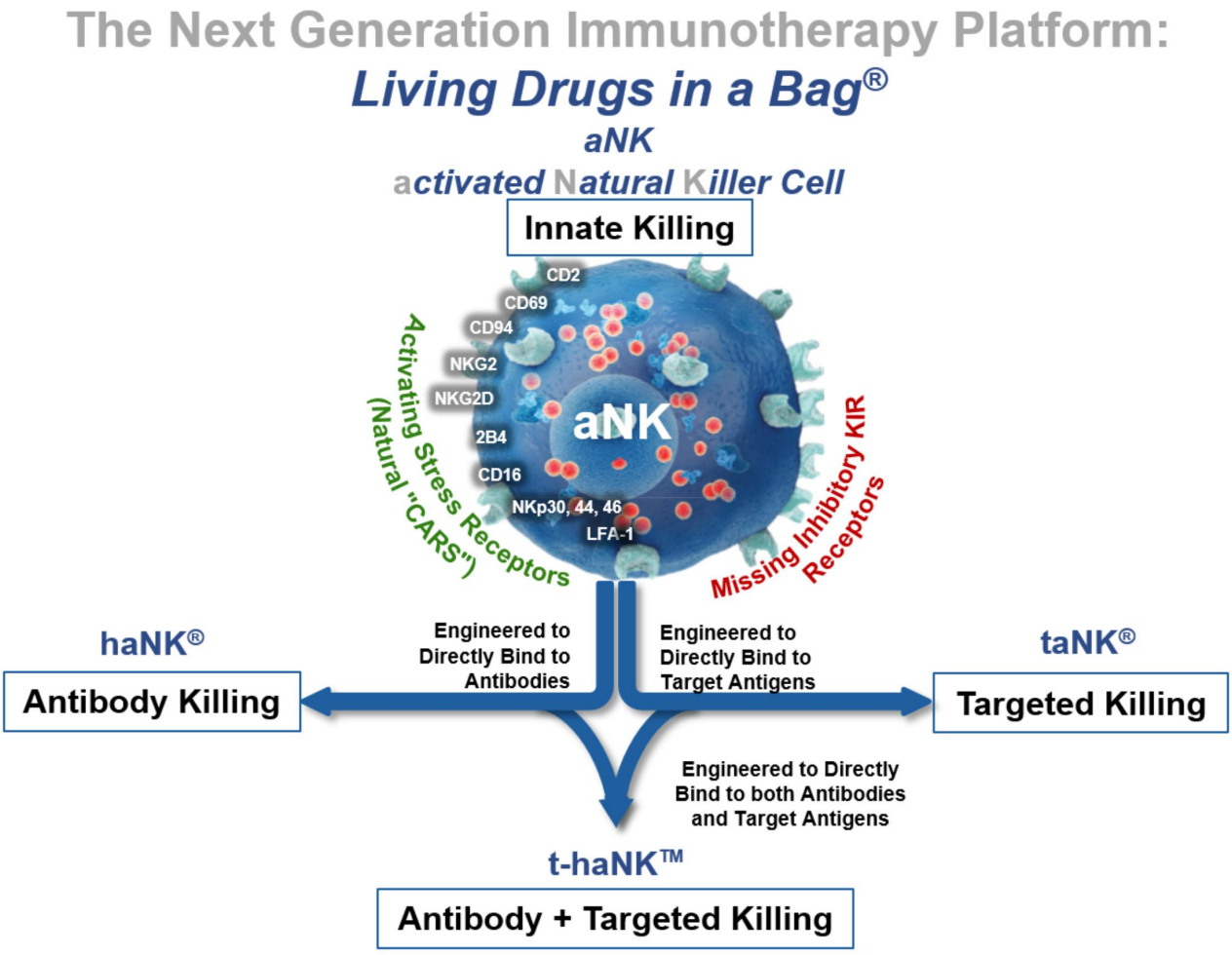
- ***Extend our NK platform to address diseases beyond cancer.*** We believe our aNK platform has the potential to address diseases beyond cancer such as viral infectious diseases because of the innate ability of natural killer cells to kill virally infected cells. Preclinical studies in HIV, HCV, EBV and Ebola viruses demonstrate this capability. Preclinical efforts are underway to evaluate the role of haNK in combination with select broadly neutralizing antibody, or bNAb, candidates in clearing HIV reservoirs as part of a novel immunotherapy combination regimen.

Our Therapeutic Platforms

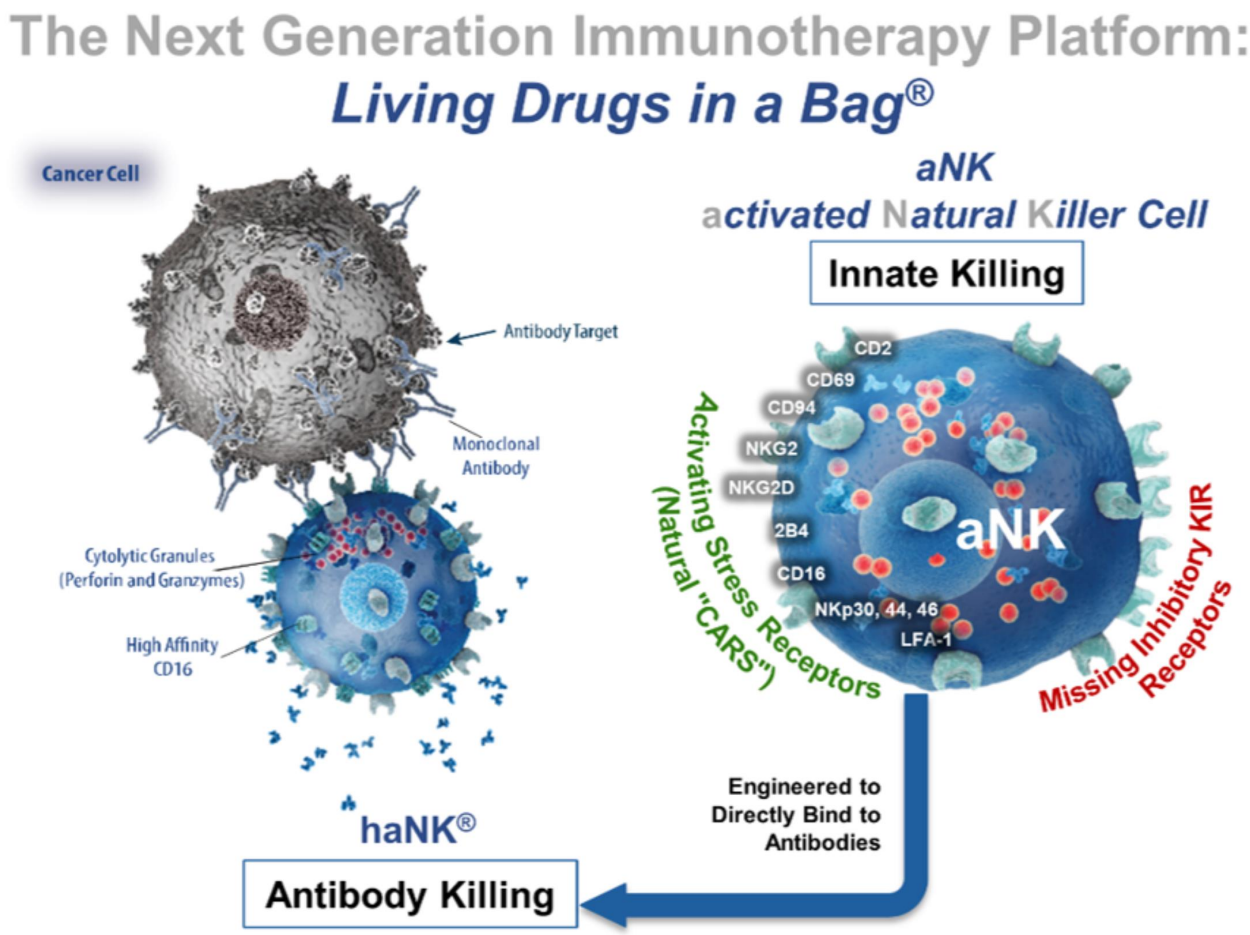
Leveraging Our Assets

We have developed a pre-clinical portfolio of t-haNK products based on the combined attributes of our existing haNK and taNK platforms. We have also advanced our haNK product candidate into clinical trials across several solid-tumor types, which incorporates a comprehensively orchestrated tumor and immune-conditioning regimen known as the Nant Cancer Vaccine, or NCV, and generated compelling safety and activity data. We now plan to advance our lead clinical candidates from the haNK and t-haNK platforms into checkpoint inhibitor and IL-15 superagonist fusion protein combination trials in select cancer indications.

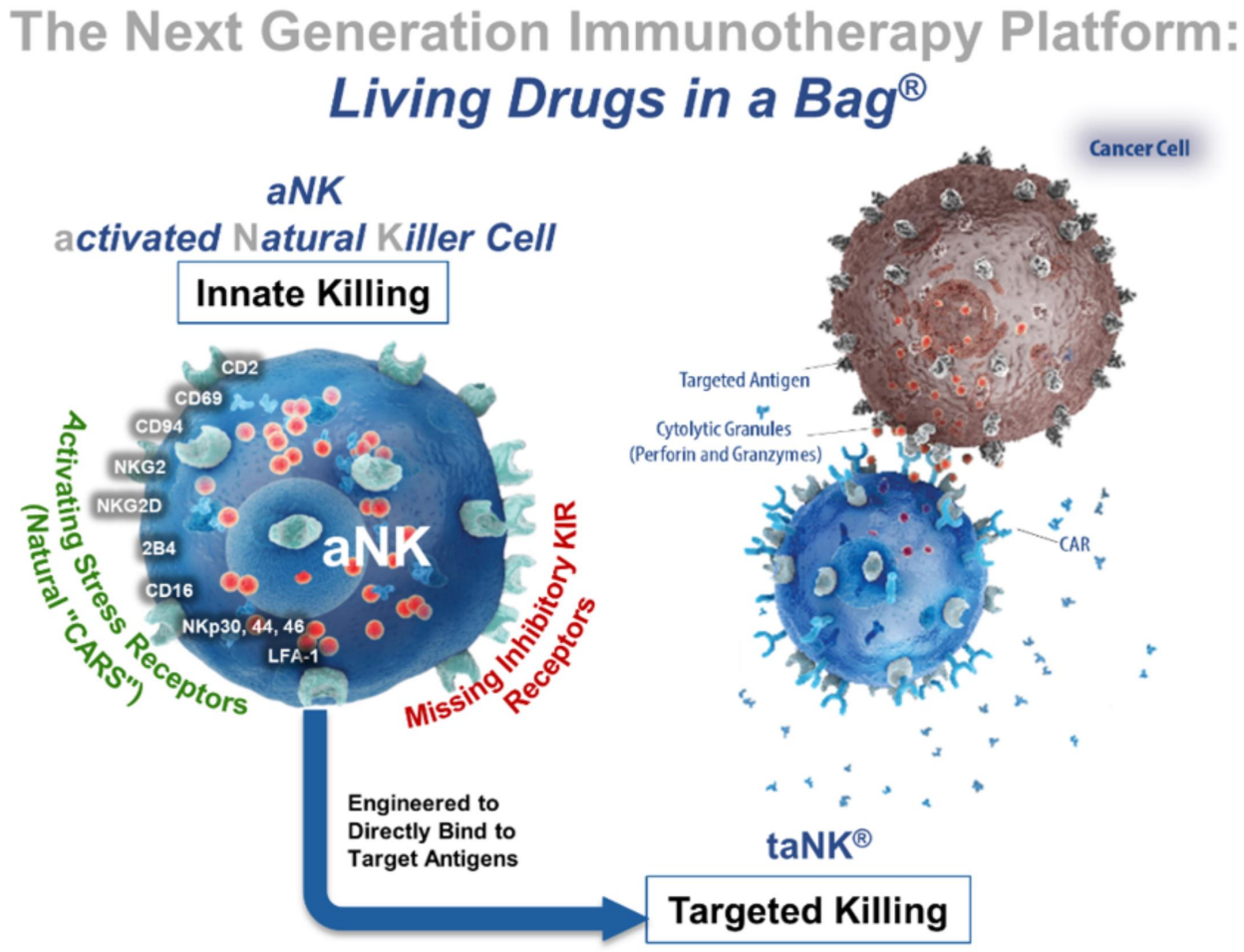
Our aNK Platform is the Foundation for Our haNK, taNK and t-haNK Product Candidates. Based on the unique characteristics of our aNK cells, we continue to expand the potential therapeutic applications of this platform through molecular engineering designed to leverage the multiple modes of killing available to aNK cells, including (1) innate plus antibody-mediated killing, the haNK platform; (2) innate plus antigen targeted killing, the taNK platform; and (3) a combination of all three, the t-haNK platform, as illustrated below.



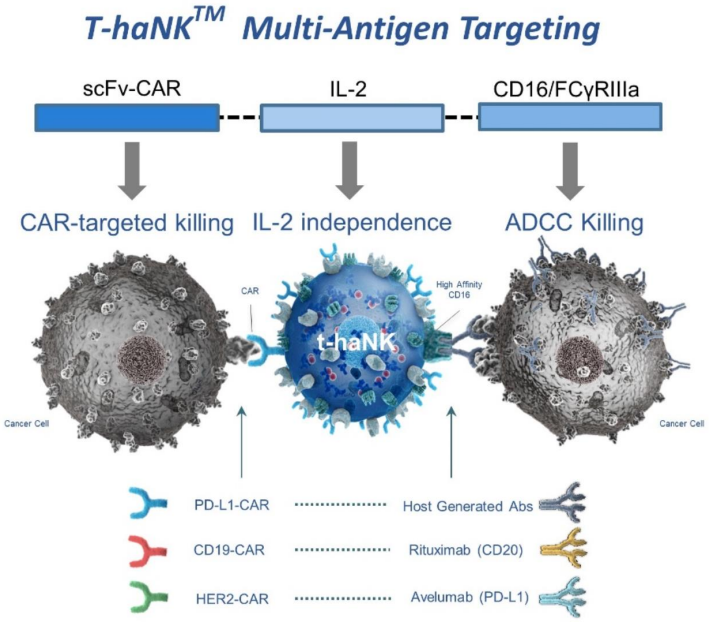
Antibody-Mediated Killing - the haNK Platform. We have genetically engineered our aNK cells to both overexpress high-affinity CD16 receptors and the IL-2 cytokine. These haNK cells are well suited to directly bind to concurrently administered therapeutic antibodies such as avelumab, trastuzumab, cetuximab and rituximab to potentially enhance their targeted cancer killing effects through ADCC, as illustrated below.



CAR-Directed Killing - the taNK Platform. We have genetically modified our aNK cells to incorporate CARs that target cancer specific proteins typically found on the surface of cancer cells. These taNK cells are designed to directly bind to these surface proteins in a variety of solid and hematological cancers and induce cell death through the release of toxic granules directly into the tumor cell and the release of cytokines and chemokines, which recruit additional innate and adaptive immune responses, including the recruitment of cytotoxic T-cells. CARs are complex molecules that are designed to traverse the cell membrane and are comprised of four elements: (1) the antibody-derived single-chain Fv fragment, or scFv, which appears on the external membrane surface of the taNK cell, where it is exposed and available to bind to cancer specific antigens; (2) a transmembrane hinge region; (3) a CD28 co-stimulatory domain; and (4) one of several signaling domain segments which resides on the internal surface of the membrane where, upon external scFv binding, it is available to signal the activation cascade to release cytotoxic compounds to destroy the targeted cancer cell. Unlike CAR-T and T-cell receptor therapies, taNK killing is human leukocyte antigen, or HLA, independent for “off-the-shelf” applications and does not depend on additional (second-generation) co-stimulatory domains, such as 4-1BB or OX40, which are often necessary in CAR-T cells for immune cell activation and survival.



CAR-Directed and Antibody-Mediated Killing - the t-haNK Platform. We have genetically engineered our aNK cells to exhibit all three mechanisms of killing, thereby imparting CAR targeted killing via cancer specific antigens, ADCC based killing as mediated by antibody products, innate killing inherent to natural killer cells, as well as independence from IL-2 supplementation for expansion and viability. Based on this unique arrangement, t-haNK cells can target two distinct cancer antigens at once: one via its CD16 receptor together with an antibody such as rituximab (CD20), and the other through its CAR receptor (i.e. PD-L1), as illustrated below.



In the taNK and t-haNK cell lines, the activation signaling that results from the binding of the CARs to the tumor-specific antigens can be strong enough to overcome both cancer escape mechanisms and suppressive factors present in the tumor microenvironment. These tumor antigens encompass three categories of proteins, all of which can be targeted individually by our engineered taNK products:

i. Checkpoint ligands, such as PD-L1 and B7-H4;

ii. Well-established tumor proteins such as CD19, HER2 and EGFR; and

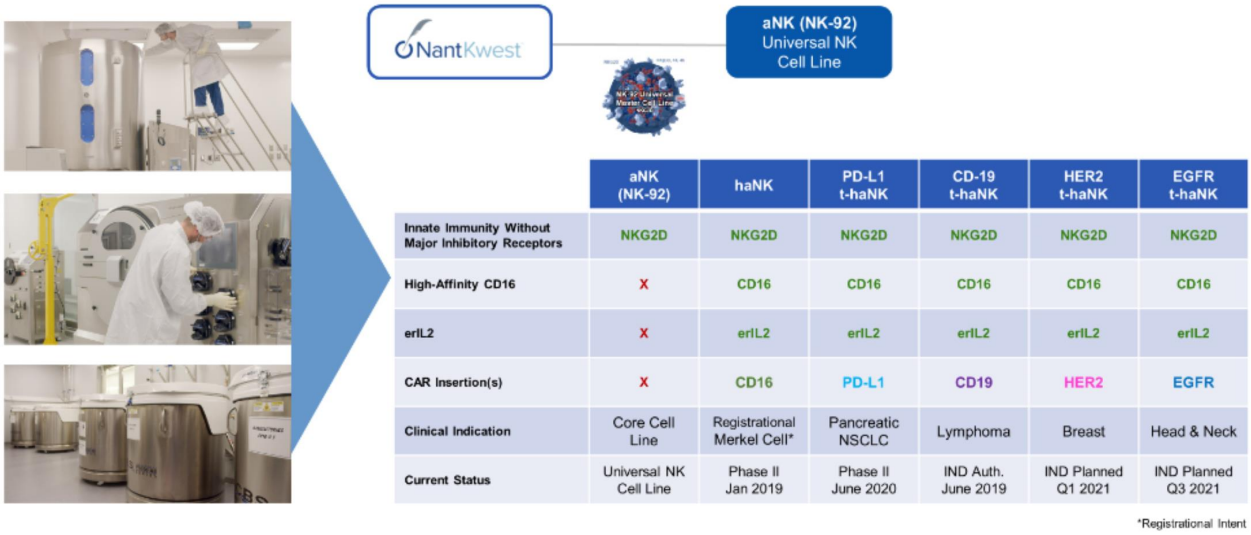
iii. Novel surface antigens associated with cancer stem cells.

The table below is a partial list of CAR modified aNK products in the literature and their intended tumor types.

CAR taNKs Have Been Created & Published

Target	Indication	Literature
HER2	Glioblastoma	J Natl Cancer Inst. 2015 Dec 6;108(5)
CD19	Non-hodgkin Lymphoma	Leukemia. 2019 Nov 26
EGFRVIII	Glioblastoma	Oncoimmunology, 2016. Dec 5(4): p. e1119354
CD123	Acute Myeloid Leukemia	Haematologica, 2018. Oct;103(10): p. 1720-1729
GD2	Neuroblastoma	Cancer Immunol Immunother, 2015. May;64(5): p. 621-34
EpCAM	Breast carcinoma	Cancer Immunol Immunother. 2012 Sep;61(9):1451-61
CD138	Multiple Myeloma	Mol Oncol. 2014 Mar;8(2):297-310
NKG2D	Enhancement of NK cytotoxicity	Cancer Res. 2013 Mar 15;73(6):1777-86
CS1	Multiple Myeloma	Clin Cancer Res. 2014 Aug 1;20(15):3989-4000
CD20	Lymphoma and leukemia	Cancer Immunol Immunother. 2008 Mar;57(3):411-23

Non-Clinical Validation of Lenti- and Retroviral Generated taNK Cell Lines; a Compelling Case for Virus-Free t-haNK-Based Therapies. We are preparing a novel lineup of virus-free t-haNK product candidates that are cryopreserved, CAR expressing cell lines based on our haNK cell therapeutic, one of which is progressing through a phase II clinical trial. Our rapid advancement of the virus-free t-haNK platform has enabled us to discontinue all use of viral vectors as a means to genetically enhance our platforms. These next-generation products avoid the safety concerns associated with the use of retro- and lentivirus sequences, incorporate the high-affinity CD16 receptor for enhanced antibody-mediated killing, as well as IL-2 for IL-2 growth independence, which can potentially reduce production costs and enhance clinical efficacy.



Latest Addition to Our Platforms

Our GMP-in-a-Box Approach

NantKwest is leading the efforts to generate allogeneic and autologous-sourced cell based products, the most advanced of which are our cytokine enriched memory-like NK, or ceNK, and mesenchymal stem cell, or MSC, therapeutics. We utilize a scalable GMP production process that combines the use of ImmunityBio's (a related party) semi-automated manufacturing equipment and software, cytokine expansion and activation reagents, including ImmunityBio's N-803, and unique user-friendly processing methods, all of which are proprietary. We have optimized processes for generating both fresh and cryopreserved clinical dose forms of ceNK cells with 100% purity (in the allogeneic setting) from a variety of sources, including cord blood and allogeneic and autologous peripheral blood. We have also optimized processes for generating fresh and cryopreserved clinical dose forms of MSCs from cord blood, cord tissue and allogeneic bone marrow sources. We avoid the use of both feeder-layers and feeder-layer derived substances for activation as well as other commonly applied additives that frequently create downstream issues in achieving a high-quality, operator-friendly reproducible final dose form and have been able to generate multiple dose forms from each donor product, both of which are critical features in achieving scalability.

Cytokine Enriched Natural Killer (ceNK) Cell Platform. Cytokine-induced memory-like NK cells are a unique set of lymphocytes that differentiate after a brief pre-activation with interleukin-12 (IL-12), IL-15, and IL-18 and exhibit enhanced responses to cytokine re-stimulation that include enhanced interferon-g production and cytotoxicity against leukemic cell lines. These cells have been isolated and characterized by their unique cell-surface marker profile and their highly desirable feature of immune-memory, marked by their pronounced anti-cancer activity for weeks to months in duration, which has made these cells a research focus for more than a decade.

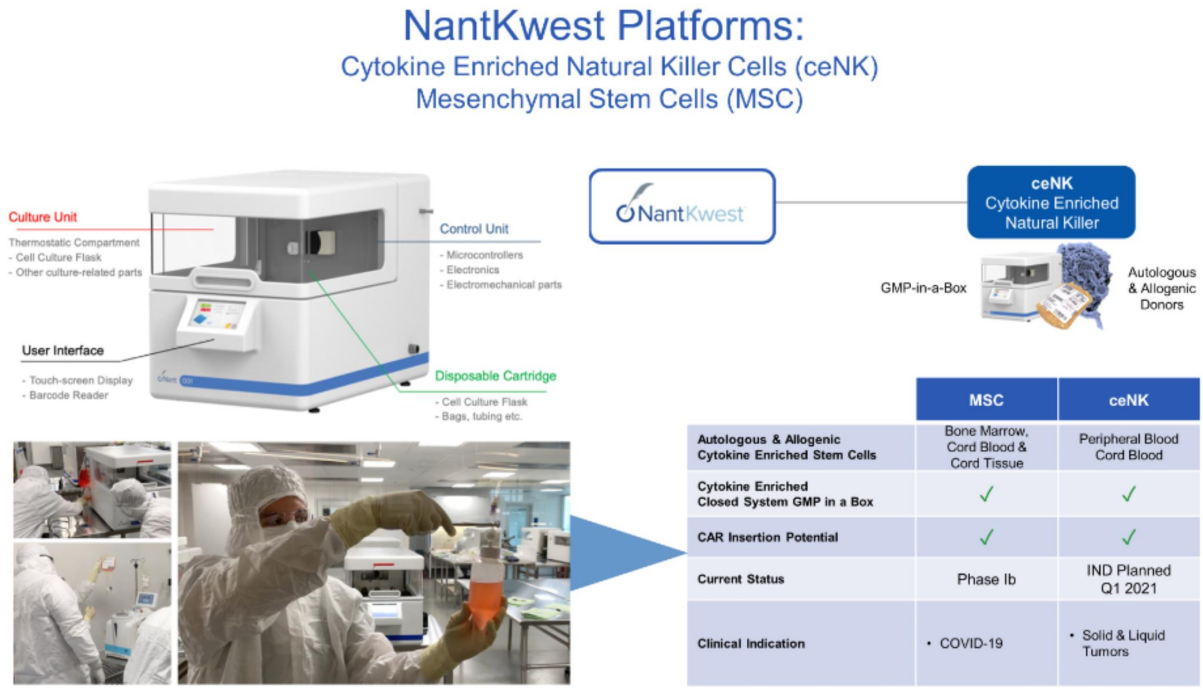
Based on published literature, we believe the ability to generate these memory-like cells at clinically meaningful quantities has been limited to the work performed at Washington University by T.A. Fehniger, et al. Published data so far has been limited to the acute myeloid leukemia patient population in the post-allogeneic, haploidentical stem cell transplantation setting, for which the Fehniger group has generated enough cells to provide a one-time dose of these cytokine-activated, memory-like natural killer cells.

Our cytokine enriched natural killer cell program is based on the ability to enrich and expand donor-sourced natural killer cells in a GMP facility to a clinically relevant scale, which allows for the production of a pure cytokine activated and expanded NK cell population that possesses the unique phenotype we specifically refer to as M-ceNK cells.

We have developed a unique ability to generate a portfolio of distinct ceNK cell products through the application of ImmunityBio's proprietary GMP-in-a-Box bioreactors and cytokines and our proprietary methods and overall expertise in scale manufacturing of NK cell based products.

Mesenchymal Stem Cell (MSC) Platform. Bone marrow-derived allogeneic MSCs are considered to be a prominent cell type to treat degenerative diseases and autoimmune disorders. MSCs are reported to be immunoprivileged, allowing for transplantation of allogeneic MSCs without the risk of being rejected by the host immune system. MSCs have been found to be capable of modulating immune responses, thereby reducing inflammation as well as immunopathology and protecting alveolar epithelial cells during acute respiratory distress syndrome, or ARDS, including that triggered by cytokine storm. More importantly, MSCs demonstrated promising activity in reducing the non-productive inflammation and in promoting lung generation in a phase II clinical trial, as well as in patients with ARDS in clinical practice. As a result, we believe MSCs have the potential to alleviate the SARS-CoV-2-derived cytokine storm and ARDS, and thereby have an effect on the treatment of subsequent chronic respiratory dysfunction and lung fibrosis.

We have developed and optimized procedures and proprietary protocols to generate multiple dose forms of MSC products from a single bone marrow or cord tissue sample, in a scalable format using ImmunityBio's GMP-in-a-Box system.



Development Update on our Product Candidates

Our leading programs reside in two core disease areas: Oncology, which includes our haNK and PD-L1.t-haNK programs, and COVID-19, which includes our joint BM-Allo-MSC therapeutic and hAd5 vaccine programs. We also have a pipeline of IND-ready t-haNK and ceNK projects in both solid and liquid cancers.

Pancreatic Cancer

Pancreatic cancer is one of the deadliest cancers for patients in the U.S. Pancreatic cancer is the third leading cause of cancer-related death in the U.S., behind only lung cancer and colorectal cancer, and is expected to become the second-leading cause after lung cancer by the early 2020's. The overall five-year survival rate is just 9%. In 2019, an estimated 56,770 people were diagnosed with pancreatic cancer in the U.S., and approximately 45,750 of those newly diagnosed will die from the disease. Pancreatic cancer is the ninth-most commonly diagnosed cancer in women and the tenth-most commonly diagnosed cancer in men. Only about 20% to 30% of cases are found early enough to treat surgically, before the cancer has spread, and surgery gives the only chance that this cancer can be eradicated. Treatment options for pancreatic cancer patients include surgery, chemotherapy, radiation therapy, targeted therapy, immunotherapy, and clinical trials. Pancreatic cancer is uniformly accepted as an area of serious unmet medical need, with five-year relative survival rates by SEER stage at diagnosis of 37% for localized, 12% for regional, 3% for distant, and 9% for all SEER stages combined.

QUILT 88 is a phase II, open-label, randomized, three-cohort comparative study of PD-L1.t-haNK, N-803 and aldoxorubicin in combination with standard-of-care therapy versus standard-of-care therapy alone for front-line maintenance, second-line and third-line or greater treatment of 298 subjects with locally advanced or metastatic pancreatic cancer. Each of the three cohorts are being conducted as standalone studies:

A. as front-line maintenance therapy in patients that have achieved a clinical response after first-line standard-of-care therapy,

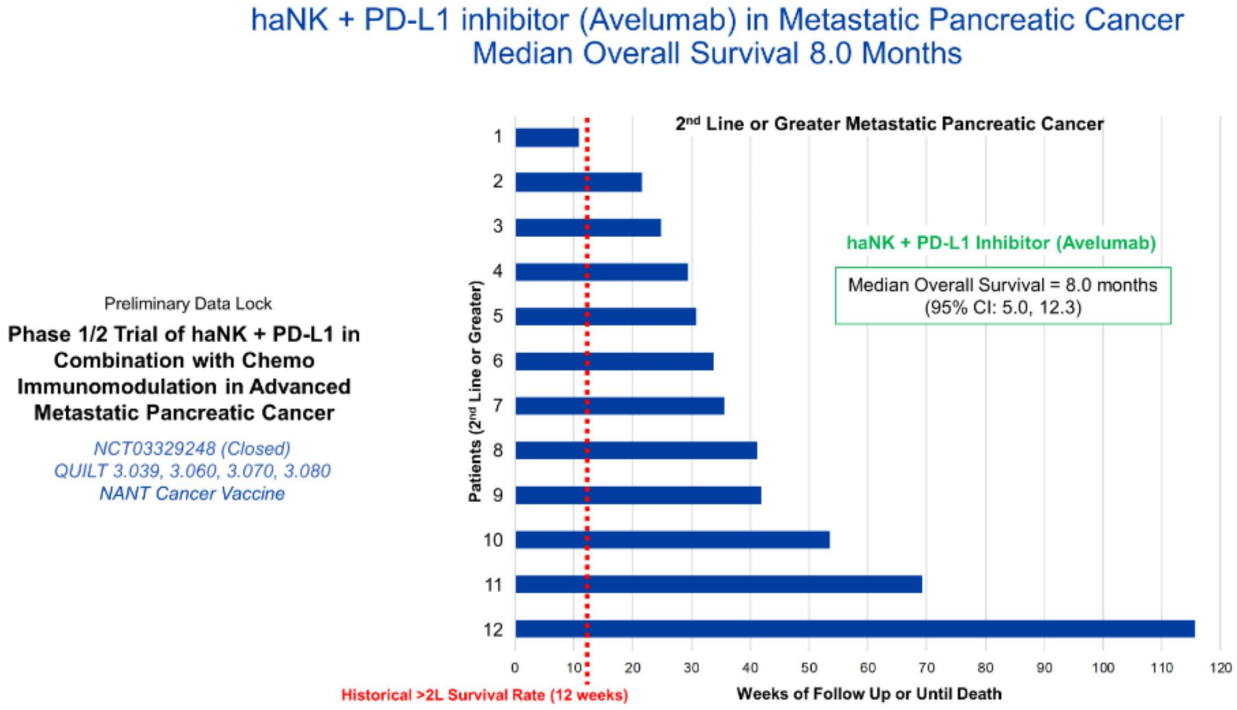
B. in second-line therapy, and

C. in third-line therapy or greater.

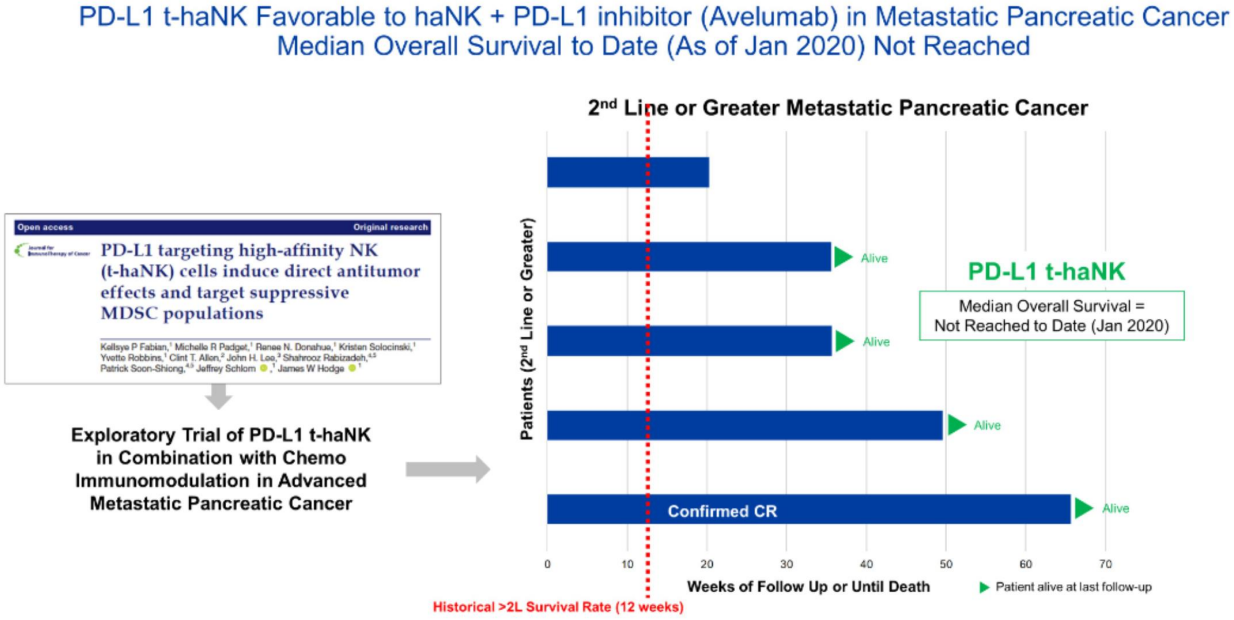
Cohorts A and B will have their own control arms while cohort C will be conducted as a single-arm, open-label study. Safety and progression-free survival for cohorts A and B will be compared within the groups using RECIST Version 1.1 criteria based on blinded independent central review. Secondary objectives include initial safety and additional efficacy measures, including overall response rate, complete response rate, durability of response, disease control rate, and overall survival.

All three study cohorts of the trial are open and actively enrolling patients at Hoag Memorial Hospital Presbyterian in Orange County, California, the Immuno-Oncology Clinic, Inc. in Los Angeles County, California, and Avera McKennan Hospital and University Health Center in Sioux Falls, South Dakota, the latter serving patients in the tri-state area of Iowa, Nebraska and South Dakota. More than 50 patients are currently enrolled in or being evaluated for the trial.

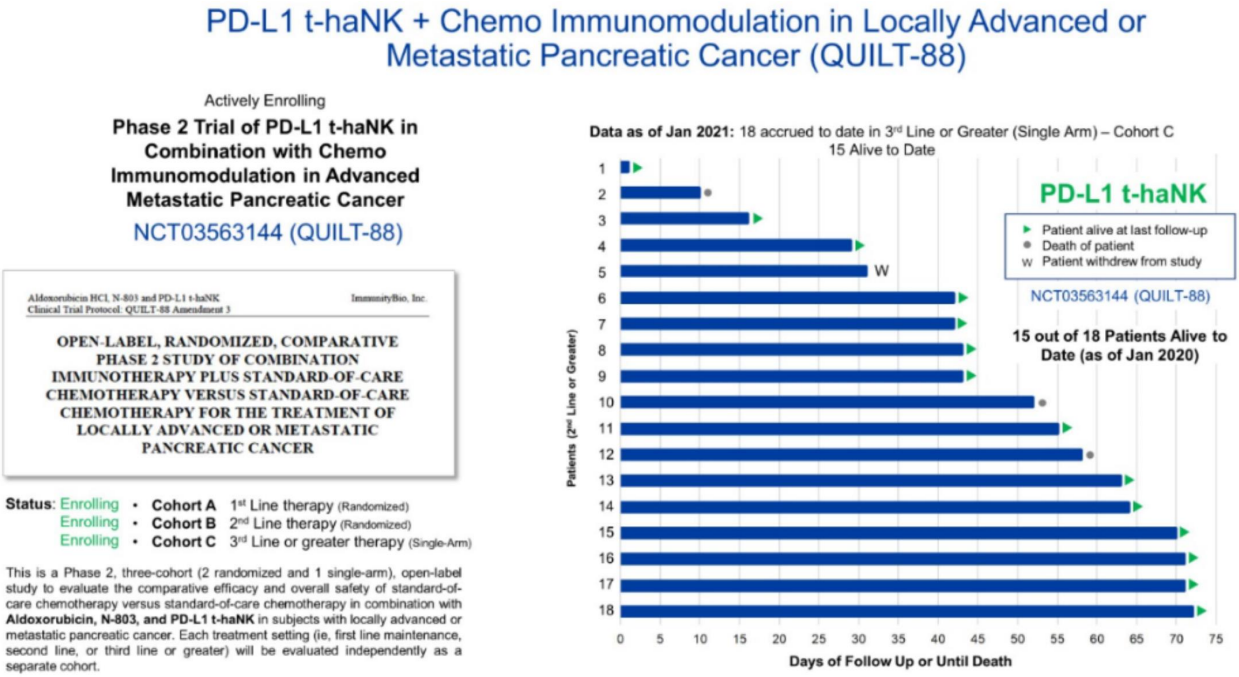
In our initial Cancer Moonshot QUILT trials of haNK and avelumab (PD-L1 checkpoint inhibitor) for patients with metastatic pancreatic cancer, we explored the hypothesis that by activating the patient's own immune system, a paradigm change in cancer therapy could evolve to eradicate cancer cells without high-dose chemotherapy. From 2017 to 2020, multiple QUILT clinical trials exploring the combination of haNK cell therapy, immune-modulating antibodies, adenovirus-based cancer vaccines, and low-dose chemotherapy provided preliminary results showing the median survival rate can be more than doubled, compared to historical controls, from three months to eight months.



In an expanded access program for patients with advanced metastatic pancreatic cancer who had no available approved treatment options, a complete remission was achieved when replacing haNK and PD-L1 checkpoint inhibitor avelumab with PD-L1.t-haNK and four out of five patients are alive 8 to 16 months since beginning treatment on these expanded protocols as of January 12, 2021.



On the basis of these initial studies, we initiated our QUILT 88 trials in metastatic pancreatic cancer in October 2020. While the data are still early study in cohort C, for which the primary endpoint is overall survival, 15 out of 18 (83%) of the patients enrolled with second-line or greater pancreatic cancer remain alive as of January 12, 2021.



Triple Negative Breast Cancer

Breast cancer is the most common cancer among women in the U.S., the second most common cause of cancer death, and the main cause of death in women ages 45 to 55 years. In 2019, the latest year for which incidence data are available, 268,600 women in the U.S. were diagnosed with breast cancer, and an estimated 41,760 women died of the disease. Triple Negative Breast Cancer, or TNBC, accounts for approximately 15% of all breast cancers. Of these TNBC cases, about 75% are "basal-like." TNBC is a subtype of breast cancer that lacks expression of the estrogen receptor, or ER, and progesterone receptor, or PR, and does not overexpress the human epidermal growth factor 2 receptor, or HER2, protein. TNBC is an important area of research for both researchers and clinicians alike because:

i. TNBC is a poor prognostic factor for disease-free and overall survival;

ii. No effective specific targeted therapy is readily available for TNBC;

iii. There is a clustering of TNBC cases in premenopausal women and in women of African descent; and

iv. The overlap of BRCA1-associated breast cancers with the TNBC phenotype is significant.

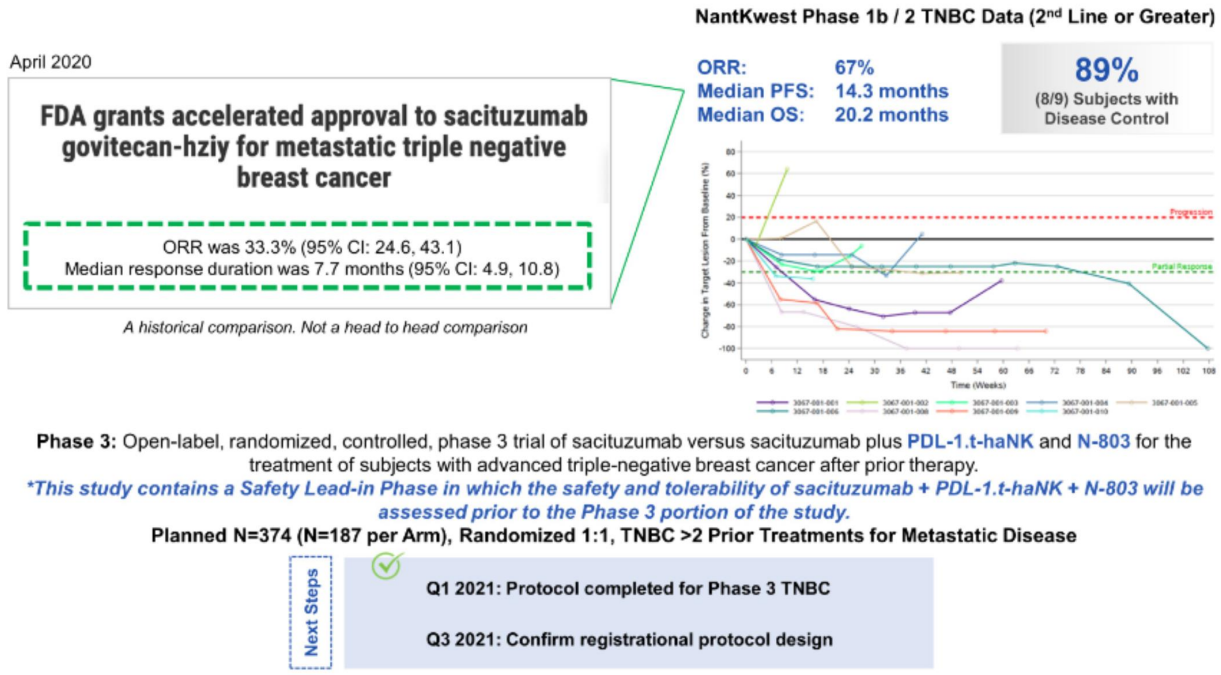
The prevalence of TNBC is highest in premenopausal African American women. A recent report notes that 39% of all African American premenopausal women diagnosed with breast cancer are diagnosed with TNBC. The prevalence of TNBC in this same age group in non-African American women is much lower, at approximately 15%. After adjusting for age and stage at diagnosis, African American women were almost three times more likely than white women to have triple-negative tumors. These ethnic or menopausal differences are not seen in either the ER+/HER2+ breast cancer subgroup or the ER+/HER2– subgroup. Five-year relative survival rates for TNBC by SEER stage at diagnosis are 91% for localized, 65% for regional, and 11% for distant.

TNBC has fewer treatment options than other types of invasive breast cancer. This is because the cancer cells do not have the estrogen or progesterone receptors or enough of the HER2 protein to make hormone therapy or targeted drugs work. If the cancer has not spread to distant sites, surgery is an option. Chemotherapy might be given first to shrink a large tumor followed by surgery. Chemotherapy might also be given after surgery to reduce the chances of the cancer coming back. Radiation might also be an option depending on certain features of the tumor.

Because hormone therapy and HER2 drugs are not choices for women with TNBC, chemotherapy is often used. In cases where the cancer has spread to other parts of the body (i.e., stage IV) chemotherapy and other treatments that can be considered include PARP inhibitors, platinum chemotherapy, or immunotherapy.

QUILT 3.067 is a phase II, open-label, single-arm trial evaluating the same novel triple combination of “off-the-shelf” haNK cell therapy with N-803 and avelumab following a tumor conditioning regimen in subjects that have progressed on or after standard-of-care therapy for TNBC. Patient follow-up concluded during the third quarter of 2020 for the long-term responders in the trial and final data is being collated for a final study report. We last reported an overall response rate by immune response RECIST criteria in 6 of 9 patients (67%), a complete response rate in 3 of 9 patients (33%) (one unconfirmed), a median progression-free survival by immune response RECIST criteria of 14.3 months and a median overall survival of 20.2 months.

With the recent FDA approval of sacituzumab in patients with third-line TNBC, based on a 33% overall response rate, we believe that the addition of PD-L1.t-haNK and N-803 may result in meaningful improvements in clinical outcomes. As such, we are preparing for an open-label, randomized controlled phase III trial of PD-L1.t-haNK and N-803 in combination with sacituzumab versus sacituzumab alone. For the primary objective, we will compare the overall response rate between the two arms using RESIST criteria in solid tumors, Version 1.1. Secondary objectives will include assessments of safety, event-free survival, overall survival and durability of response using the same RESIST Version 1.1 criteria. The study will contain a safety lead-in phase in which the safety and tolerability of sacituzumab + PD-L1.t-haNK + N-803 will be assessed prior to the Phase III portion of the study. We anticipate filing an IND in the first quarter of 2021.



Non-Small Cell Lung Cancer

Lung cancer is the second most common cancer. The American Cancer Society estimates that about 235,760 new cases of lung cancer will be diagnosed in the U.S. in 2021 and an estimated 131,880 patients will die of the disease. Non-small cell lung cancer, or NSCLC, is often insidious, producing no symptoms until the disease is well advanced. NSCLC makes up about 80% to 85% of all lung cancers. The three main types of NSCLC are squamous cell carcinoma, and non-squamous cell carcinoma, consisting of adenocarcinoma and large cell carcinoma. Adenocarcinoma is the most common form of lung cancer in the U.S., among both men and women. Squamous cell carcinoma, is the second most prevalent, accounting for 25% of all lung cancers. Large cell carcinoma is the smallest, accounting for approximately 10% of NSCLC tumors. Early recognition of symptoms may be beneficial to outcome. At initial diagnosis, 20% of patients have localized disease, 25% of patients have regional metastasis, and 55% of patients have distant spread of disease. Symptoms depend on the location of cancer.

The five-year survival rate for NSCLC is 24%. However, it is important to note that survival rates depend on several factors, including the subtype of lung cancer, and the stage of disease. For people with localized NSCLC, which means the cancer has not spread outside of the lung, the overall five-year survival rate is 61%. For regional NSCLC, which means the cancer has spread outside of the lung to nearby areas, the five-year survival rate is approximately 35%. If the cancer has spread to distant parts of the body, called metastatic lung cancer, the five-year survival rate is 6%. As a result of new effective treatments, this number is changing, although better therapies are acutely needed.

QUILT 3.055 is a phase IIb, open-label, multi-cohort study of combination immunotherapy in patients with NSCLC who have previously received treatment with immune checkpoint inhibitors. Patients are eligible to enter into the cohort designated to receive third-line combination immunotherapy consisting of PD-L1.t-haNK cell therapy, N-803 and a checkpoint inhibitor after progressing on one of four other treatment cohorts within the study. The primary efficacy endpoint of the study is overall response rate per RECIST Version 1.1. Secondary endpoints include progression-free survival, overall survival and durability of response using RECIST Version 1.1 criteria. The IND amendment to include this third-line study cohort has been authorized by the FDA. Observed responses in this trial will guide our plans to conduct a subsequent phase II trial in second-line NSCLC patients.

Merkel Cell Carcinoma

Merkel cell carcinoma, or MCC, is a rare and aggressive skin cancer that arises from uncontrolled growth of cells in the skin. Increasing in incidence, approximately 2,000 new cases are reported in the U.S. each year. Patients with metastatic or locally advanced MCC have an extremely poor prognosis, with less than 20% of patients surviving longer than five years. Typically, these patients are treated with a range of drugs, including chemotherapy, which can result in significant side effects. Although new immune therapies have the potential to improve survival, MCC is still fatal for a majority of patients who have progressed on or after treatment with a checkpoint inhibitor and represents an unmet medical need.

QUILT 3.063 is our phase II, open-label, single-arm trial evaluating the novel triple combination of "off-the-shelf" haNK cell therapy with N-803 and avelumab, without chemotherapy in subjects that have progressed after treatment with a checkpoint inhibitor for MCC. This trial is currently open at multiple centers across the U.S. As a rare disease, with approximately 2,000 patients being diagnosed in the U.S. each year, MCC patients often require regional referral and additional travel to a clinical trial site. The ongoing COVID-19 pandemic has continued to have an impact on enrollment due in part to limitations in travel and study accessibility as well as a significant reduction in patient referrals. In response to this, we will continue to implement measures to increase local community awareness of the trial as we add new sites. While we remain cautiously optimistic, it may require additional time to reach our interim data readout.

Additional Oncology Programs Update

We anticipate pursuing additional indications for our PD-L1.t-haNK product candidate, such as in the neoadjuvant setting in combination with N-803 and a checkpoint inhibitor for newly diagnosed patients with head and neck squamous cells cancers in collaboration with the National Cancer Institute. In the near future we also plan to initiate a series of phase I first-in-human trials with our IND-ready t-haNK products HER2.t-haNK, EGFR.t-haNK and the FDA authorized CD19.t-haNK. Likewise, we are nearing an IND filing for a phase I ceNK trial in locally advanced solid cancers.

COVID-19 Programs Update

QUILT-COVID-19-MSC is a randomized, double-blind placebo-controlled phase Ib study to assess the safety of therapeutic treatment with immunomodulatory bone marrow-derived MSC, or BM-Allo-MSC, in adults with severe COVID-19 infection. This clinical trial will evaluate the safety and efficacy of BM-Allo-MSC versus best supporting care in treating patients with severe disease requiring ventilator support during COVID-19 infection. A total of 45 subjects receiving care in the critical care or ICU setting for COVID-19 will be enrolled in this study. Subjects will be randomized in a 2:1 fashion to the experimental and control arms, respectively. Primary endpoints include incidence of adverse events, mortality and number of ventilator-free days within 60 days of randomization. All subjects will also be assessed using the standard National Early Warning Score, or NEWS score (Royal College of Physicians 2012).

A second, more efficient commercial source of MSC cells has been developed in-house, using cord tissue. Consequently, we recently filed a second IND for CT-Allo-MSC cells using the same trial design and plan to shift our clinical trial effort to this new protocol, which we plan to open at several clinical sites in Southern California, including Hoag Hospital in Newport Beach, California.

QUILT 4001 is an hAd5 adenoviral COVID vaccine trial operated by our affiliate, ImmunityBio, under a Joint COVID-19 Collaboration Agreement, described below. This phase Ib, open-label study will evaluate the safety, reactogenicity and immunogenicity of prophylactic vaccination with a second generation E1, E2b and E3 deleted human adenovirus-5 vaccine in normal healthy volunteers. The test article is an hAd5-S-Fusion+N-ETSD vaccine which encodes for an optimized spike protein (S-Fusion), to enhance stability and cell surface expression of the receptor binding domain of the SARS-CoV-2 spike protein, and a Nucleocapsid protein with an enhanced T-cell stimulation domain (N-ETSD) to enhance cell-mediated immunity. Two cohorts of ten subjects will receive either 5×10^{10} or 1×10^{11} virus particles per dose on days 1 and 22 and a third cohort of fifteen patients would receive the highest safe dose administered in the two initial cohorts. Safety and activity will be assessed for up to twelve months after the second dose. Toxicities will be graded using the Guidance for Industry - Toxicity Grading Scale for Healthy Adult and Adolescent Volunteers Enrolled in Preventive Vaccine Clinical Trials (2007).

As a result of the emergence of rapidly evolving resistance mutations in the spike protein, an IND amendment has been filed under the ongoing QUILT 4001 to incorporate a sublingual (SL) formulation of the hAd5-S-Fusion+N-ETSD vaccine, thereby expanding the trial to a total of 60 patients across six study cohorts. In addition, a second IND has been filed to test an oral formulation in a separate phase Ib trial in the U.S. This trial, QUILT 4005, will study an additional 40 patients across four cohorts. The oral formulation employed is stable at room temperatures, which may help alleviate cold-chain logistics issues that have slowed deployment of currently approved COVID-19 vaccines. Additionally, the oral and SL formulations are designed to enhance IgA secretion and may confer greater protection against infection. On February 11, 2021, we announced that the IND amendment for QUILT 4001 and the new IND for QUILT 4005 have been authorized by the FDA. These studies are now actively enrolling patients at Hoag Hospital, in Newport Beach, California. Once these new formulations have been tested for safety and immunogenicity, we will then proceed with a planned phase II/III trial using the most optimal combination.

The following table summarizes our current development programs:

NantKwest Company Sponsored Clinical Pipeline

	Phase: Indication	NK Activation Universal NK Cell	Tumor Conditioning Regimen	Pre-IND / Phase I / Phase II / Phase III	Current Status and Expected Milestones
Oncology	QUILT 3.063 Ph II: Merkel Cell Carcinoma 2L	haNK	N-803, Avelumab	N = 43, Single-Arm	Ongoing, Interim Data 1H 2021
Oncology	QUILT 88 (Cohorts A + B) Ph II: Pancreatic Cancer 1L, 2L	PD-L1 t-haNK	Tumor Conditioning, Aldox, N-803	N = 249, Randomized	Ongoing, Accrual Status Announced 1/13/21
Oncology	QUILT 88 (Cohort C) Ph II: Pancreatic Cancer 3L	PD-L1 t-haNK	Tumor Conditioning, Aldox, N-803	N = 50, Single Arm	Ongoing, Interim Data Announced 1/13/21
Oncology	QUILT 3.055 Ph II: Non-Small Cell Lung Cancer 3L	PD-L1 t-haNK	Checkpoint, N-803	N = 25, Single-Arm	IND Authorized, Interim Data Q3 2021
Oncology	Ph III: Triple Negative Breast Ca. 2L‡	PD-L1 t-haNK	Tumor Conditioning, N-803	N= 374	IND To be Filed Q1 2021
Oncology	QUILT 3.061 Ph I: ALL, DLBCL	CD19 t-haNK	FIH, Single Agent	N=10	IND Authorized, FIH Q2 2021
Oncology	Ph I: Solid Tumor‡	ceNK	FIH, Single Agent	IND Ready	IND to be Filed Q1 2021
Oncology	Ph I: HER2+ Breast Cancer / Gastric Cancers‡	HER2 t-haNK	FIH, Single Agent	IND Ready	IND to be Filed 1H 2021
Oncology	Ph I: Squamous Cell Carcinoma Head & Neck‡	EGFR t-haNK	FIH, Single Agent	IND Ready	IND to be Filed Q3 2021
Infectious Disease	Ph Ib: COVID SARS-CoV-2 Severe Infection*	BM-Allo.MSC Mesenchymal Stem Cells		N = 45, Randomized	Ongoing, CT-Allo.MSC IND Authorized
Infectious Disease	Ph Ib: COVID SARS-CoV-2 High-Risk Moderate Infection*	ceNK: Allogeneic Cytokine Induced Memory-Like Natural Killer Cells		IND Ready	IND Pending
Infectious Disease	QUILT 4001 & QUILT 4005 Ph Ib: COVID Adenovirus Vaccine†	hAd5 Construct: S-Fusion + N-ETSD		N = 100 Combined Total	Ongoing, IND Amendment and New IND Authorized to evaluate SQ, SL and Oral Formulations

N-803 is an IL-15RαFc Superagonist, a proprietary therapeutic cytokine designed to induce expansion of native NK and CD8+ T-cells without concurrent stimulation of T-regulatory cells; Aldoxorubicin (Aldox) is a proprietary albumin-bound doxorubicin complex that is designed to preferentially accumulate in a tumor's low pH environment. Both agents are in late-stage clinical development by our affiliate, ImmunityBio, which has exclusive, worldwide rights to the agents. Avelumab is an FDA approved checkpoint inhibitor marketed by Pfizer.

***** Program owned by NantKwest and subject to Joint Development Agreement with ImmunityBio.

† Program owned by ImmunityBio and subject to Joint Development Agreement with NantKwest.

‡ QUILT number not yet designated.

Joint COVID-19 Collaboration Agreement with ImmunityBio

On August 21, 2020, we entered into a definitive agreement, which we refer to as the Collaboration Agreement, with ImmunityBio to pursue collaborative joint development, manufacturing and marketing of certain COVID-19 therapeutics and vaccines. The terms of the Collaboration Agreement supersede and replace the terms of the binding term sheet executed on May 22, 2020. Through their efforts, the parties agreed to jointly develop ceNK, haNK, MSC, hAd5, and N-803, a novel IL-15 superagonist fusion protein, for the prevention and treatment of SARS-CoV-2 viral infections and associated conditions in humans, including without limitation, COVID-19. Pursuant to the Collaboration Agreement, we have contributed our ceNK, haNK, and MSC product candidates and certain of our manufacturing capabilities, and ImmunityBio has contributed their hAd5 and N-803 product candidates. hAd5 has been developed as a vaccine, and ceNK, haNK, MSC and N-803 have each been developed as therapeutics for treating COVID-19 at various stages of infection.

From and after the effective date of the Collaboration Agreement, the parties will share equally in all costs relating to developing and manufacturing of the product candidates globally with the exception of certain laboratory equipment purchases that will be borne solely by us. With the exception of N-803, we will be primarily responsible for the manufacture of each product. Each party will be responsible for the regulatory affairs and the commercialization relating to its contributed products. The global net profits from the collaboration products will be shared 60%/40% in favor of the party contributing the product on which the sales are based except if the parties mutually agree because of certain circumstances. All net profits from sales of combined collaboration products will be shared equally. This collaboration is supervised by a joint steering committee, which is comprised of an equal number of representatives from both parties. The term of the agreement will be five years and it is renewable for an additional five year period upon mutual agreement. Each party will also have a right to terminate in the event of material breach, bankruptcy, or insolvency.

In this Joint COVID-19 Collaboration, we contributed the following programs:

- ***MSC cells*** (as described above) as a therapeutic candidate for patients with severe symptoms of COVID-19 to modulate the immune system's excessive response to COVID-19 infection, thereby potentially reducing the debilitating and sometimes fatal effects of the disease; and
- ***ceNK and haNK cells*** (as described above) as a therapeutic candidate for moderate-risk, hospitalized adults with moderate to severe symptoms of COVID-19.

ImmunityBio contributed the following programs:

- ***N-803*** as a therapeutic candidate for patients with mild symptoms of COVID-19 prior to the onset of severe disease by potentially activating natural killer cells to mitigate viral replication; and
- ***Human adenovirus (hAd5)*** as a vaccine candidate for those individuals in an uninfected state to prevent the onset of COVID-19.

In addition to the above programs contributed by each party, we have contributed our manufacturing capabilities in the form of facilities, equipment, personnel and related know-how, including our GMP manufacturing facility in El Segundo, California, and ImmunityBio has contributed certain manufacturing equipment and related technology and know-how. To date, NantKwest and ImmunityBio have each prepared a GMP-ready manufacturing plant for COVID-19 vaccine production, which we and ImmunityBio expect will have a combined estimated capacity to produce sufficient clinical supply for our planned studies in 2021. We have prepared one of our GMP manufacturing facilities previously used to manufacture product for our oncology trials to manufacture and produce the hAd5 vaccine candidate and have readied a new, well-equipped location to manufacture and produce clinical products for our oncology trials, which resulted in additional facilities and related facility operating costs starting in the third quarter of 2020. We have established a clinical product inventory to continue to supply clinical product for our ongoing oncology trials while this new facility was being readied. The new facility will resume clinical product supply for our oncology trial starting in early 2021. In addition, we have repurposed some of our personnel overseeing quality of our oncology programs to support the Joint COVID-19 Collaboration. We also expect to hire additional staff to support the Joint COVID-19 Collaboration. We believe the Joint COVID-19 Collaboration will have no material impact on our current oncology efforts and trials, and we expect that we will be able to continue to manufacture adequate product to continue our ongoing oncology trials.

Competition

The biopharmaceutical industry is characterized by intense and dynamic competition to develop new technologies and proprietary therapies. Any product candidates that we successfully develop and commercialize will have to compete with existing therapies and new therapies that may become available in the future. We believe that our base proprietary aNK platform, differentiated haNK, taNK and t-haNK product candidates, strategic collaborations and cell-based immunotherapy expertise may provide us with competitive advantages. However, we face potential competition from various sources, including larger and better-funded pharmaceutical, specialty pharmaceutical and biotechnology companies, as well as from academic institutions, governmental agencies and public and private research institutions. The key competitive factors affecting the success of any approved product will include its efficacy, safety profile, pricing, and method of administration, as well as the level of promotional activity invested in it.

Our haNK, taNK, t-haNK and ceNK product candidates compete with other cell and molecule-based immunotherapy approaches using or targeting natural killer cells, NKT cells, T-cells, and dendritic cells. Competitors focused on CAR-T related treatment approaches include AbbVie Inc., Atara Biotherapeutics, Inc., Precigen Corporation, Inc., Allogene Therapeutics, Inc., Bristol-Myers Squibb Company, Beijing Immunochina Pharmaceuticals Co., Ltd., Cellular Biomedicine Group, Inc., iCell Gene Therapeutics LLC, JW Therapeutics Co., Ltd., Amgen, Inc., Leucid Bio Ltd., Bellicum Pharmaceuticals, Inc., Medisix Therapeutics Pte Ltd., Bluebird Bio, Inc., Mesoblast Ltd., Calibr/Scripps Research, Mustang Bio, Inc., Carina Biotech, Inc., CARsgen Therapeutics, CRISPR Therapeutics, Inc., GEMoaB Monoclonals GmbH, Nanjing Legend Biotechnology Co., Ltd, Cartherics Pty Ltd, Novartis AG, Pfizer, Inc., Cellectis SA, Poseida Therapeutics, Inc., Prepromene Bio, Inc., Celularity, Inc., Servier Laboratories, Sorrento Therapeutics, Inc., Celyad SA, Takeda Pharmaceutical Company Limited, Fortress Biotech, Inc., TC BioPharm Ltd., Tessa Therapeutics Pte Ltd, Gilead Sciences, Inc., Tmunity Therapeutics, Inc., Transposagen Biopharmaceuticals, Inc., Humanigen, Inc., Immune Therapeutics, Inc., and Xyphos, Inc./Astellas.

Competitor companies focused on other T-cell based approaches include Adaptimmune Ltd., Adicet Bio, Inc., Autolus Therapeutics, plc, Cell Medica Limited, Eureka Therapeutics, Inc., Formula Pharmaceuticals, Inc., GlaxoSmithKline plc., Green Cross LabCell Corp., Immatics Biotechnologies GmbH, Immunocore Limited, Iovance Biotherapeutics, Inc., Kiadis Pharma Netherlands B.V., Lion TCR Pte Ltd., MolMed, S.p.A., Precision Biosciences, Inc., Janssen Pharmaceuticals, Inc., Noile-Immune Biotech, Inc., Anixa Biosciences, Inc., Beam Therapeutics Inc., BioNTech SE, Cartesian Therapeutics, Inc., Marker Therapeutics, Inc., Refuge Biotechnologies, Inc., Repertoire Immune Medicines, Inc., Sensei Biotherapeutics, Inc., Senti Biosciences, Inc., TCR² Therapeutics Inc., TScan Therapeutics, Inc., and Takara Bio, Inc.

Competitor companies focused on dendritic cell based approaches include Argos Therapeutics, Inc., Biovest International, Inc., ImmunoCellular Therapeutics, Ltd., Merck & Co, Inc./Immune Design, Inc., Inovio Pharmaceuticals, Inc., Precigen Corporation, Inc., Medigene AG, and Northwest Biotherapeutics, Inc.

Competitor companies focused on natural killer cell based approaches include Acepodia, Inc., Carabou Biosciences, Inc., Catamaran Bio Inc., Celularity, Inc., Century Therapeutics, Inc., Cytovia Therapeutics, Inc., Glycostem Therapeutics BV, Kiadis Pharma Netherlands B.V./CytoSen Therapeutics, Inc., Dragonfly Therapeutics, Inc., Editas Medicine, Inc., EMERcell, Exacis Biotherapeutics, Inc., Fate Therapeutics, Inc., Gamida Cell, Ltd., INmune Bio Inc., Nkarta Therapeutics, Inc., Onkimmune Ltd., Oncternal Therapeutics, Inc., NKMax America, Artiva Biotherapeutics/Merck, HebeCell Corp., Vycellix, Inc., oNKo-innate Pty Ltd., ONK Therapeutics Limited, Sanofi, S.A., Shoreline Biosciences, Inc., Takeda Pharmaceutical Company Limited, XNK Therapeutics AB, Zelluna Immunotherapy AS, and Ziopharm Oncology, Inc.

Competitor companies focused on large molecule immunotherapy approaches, including those overlapping the natural killer cell space, include Cytomx Therapeutics, Inc., Compass Therapeutics, Inc., Innate Pharma SA, Nektar Therapeutics, Inc., and Sorrento Therapeutics, Inc.

Other potential immunotherapy competitors include Affimed GmbH, AgenTus Therapeutics, Inc., Agios Pharmaceuticals, Inc., Codiak Biosciences, Glycostem Therapeutics BV, Kuur Therapeutics Limited, Triumvira Immunologics, Incysus Therapeutics, Inc., GammaDelta Therapeutics Ltd., Lyell Immunopharma, Inc., and GT Biopharma, Inc.

There are currently four approved T-cell based treatments that are marketed by Novartis AG, Gilead Sciences/Kite Pharma (two therapeutics), and the Bristol-Myers Squibb Company. There is currently one approved dendritic cell-based cancer vaccine marketed by Dendron Pharmaceuticals, LLC for the treatment of metastatic castration resistant prostate cancer.

Competitor companies focused on COVID-19 cell therapy currently include AstraZeneca plc, Athersys, Inc./Healios K.K., Capricor Therapeutics, Inc., CAR-T (Shanghai) Biotechnology, Cellavita Pesquisa Científica Ltda, Cellenkos, Inc., Cellular Biomedicine Group, Inc., Celularity, Inc., Sorrento Therapeutics, Inc., Chinese Academy of Sciences, Chongqing Sidemu Biotechnology Technology/ImmunCyte Life Sciences, Inc., Enlivex Therapeutics Ltd, Green Cross LabCell Corp., Hope Biosciences, Johnson & Johnson, Mesoblast Limited, Moderna, Inc., NovaVax, Inc., Orbsen Therapeutics Limited, Pfizer, Inc./BioNTech SE, Pluristem Therapeutics, Inc., Rigshospitalet, Tianhe Stem Cell Biotechnologies Inc., University of Minnesota/Fate Therapeutics, Inc., and Xinjiang Medical University.

In addition, a very large number of companies, government agencies and academic centers around the world are developing COVID-19 vaccines, and many of these entities are in more advanced stages of development than ImmunityBio, including some that have started Phase II and/or III clinical trials or already have emergency regulatory approval in some regions. Even if ImmunityBio's COVID-19 vaccine candidate is ultimately approved for marketing, the value of our profit-sharing opportunity would be adversely impacted if other COVID-19 vaccines are approved earlier or show better efficacy or safety than ImmunityBio's COVID-19 vaccine candidate.

Many of our competitors, either alone or with their strategic partners, have substantially greater financial, technical and human resources than we do, as well as significantly greater experience in the discovery and development of product candidates, obtaining FDA and other regulatory approvals of treatments and commercializing those treatments. Accordingly, our competitors may be more successful than us in obtaining approval for treatments and achieving widespread market acceptance. Our competitors' treatments may be more effective, or more effectively marketed and sold, than any treatment we may commercialize, and they may render our treatments obsolete or non-competitive before we can recover the expenses of developing and commercializing any of our treatments.

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

We anticipate that we will face intense and increasing competition as new therapies enter the market and advanced technologies become available. We expect any treatments that we develop and commercialize to compete on the basis of, among other things, efficacy, safety, convenience of administration and delivery, price, the level of generic competition and the availability of reimbursement from government and other third-party payors.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have a better safety profile, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. In addition, we expect that our therapeutic products, if approved, will be priced at a significant premium over competitive generic products and our ability to compete may be affected in many cases by insurers or other third-party payors seeking to encourage the use of generic products.

Intellectual Property

We strive to protect and enhance the proprietary technology, inventions, and improvements that are commercially important to our business, including seeking, maintaining, and defending patent rights, whether developed internally or licensed from third parties. Our policy is to seek to protect our proprietary position by, among other methods, filing patent applications in the U.S. and in jurisdictions outside of the U.S. related to our proprietary technology, inventions, improvements, and product candidates that are important to the development and implementation of our business. We seek to consistently file follow-on patent applications on further improvements and features of our NK cell-based products, thereby adding additional layers of protection and reducing reliance on our original patents that would be the earliest to expire and may be subject to challenge. We also rely on trade secrets and know-how relating to our proprietary technology and product candidates, continuing innovation, and in-licensing opportunities to develop, strengthen, and maintain our proprietary position in the field of natural killer cell-based immunotherapy. We expect to rely on data exclusivity, market exclusivity, patent term adjustments and patent term extensions when available, as well as on regulatory protection afforded through orphan drug designations. Our commercial success may depend in part on our ability to obtain and maintain patent and other proprietary protection for our technology, inventions, and improvements; to preserve the confidentiality of our trade secrets; to maintain our licenses to use intellectual property owned by third parties; to defend and enforce our proprietary rights, including our patents; and to operate without infringing on the valid and enforceable patents and other proprietary rights of third parties.

We have developed and in-licensed numerous patents and patent applications and we possess substantial know-how and trade secrets relating to the development and commercialization of natural killer cell-based immunotherapy product candidates, including related manufacturing processes and technology. As of December 31, 2020, our owned and licensed patent portfolio consists of 66 patents and pending patent applications and provisional filings in the U.S. disclosing subject matter directed to certain of our proprietary technology, inventions, and improvements and our most advanced product candidates, as well as 216 licensed and owned patents and pending applications in 24 jurisdictions outside of the U.S., including 26 Patent Cooperation Treaty applications, that, in many cases, are counterparts to the foregoing U.S. patents and patent applications. For example, these patents and patent applications include claims directed to:

- Natural Killer Cell Line Compositions and Methods-of-Use;
- Treatment of Cancer using Natural Killer Cell Lines;
- Treatment of Specific Diseases using Natural Killer Cell Lines;
- Combination Therapy using Natural Killer Cell Lines;
- CD16 Modified Natural Killer Cell Line Compositions and Methods-of-Use;
- CD16 Modified Natural Killer Cell Line with Monoclonal Antibodies for Treatment of Cancer;
- CAR-Expressing Natural Killer Cell Line Compositions and Methods-of-Use;
- CD16 Modified and CAR-Expressing Natural Killer Cell Line Compositions and Methods-of-Use;
- Homing and Cytokine Modified Natural Killer Cell Line Compositions and Methods-of-Use;
- Treatment of Viral and Bacterial Diseases using Natural Killer Cell Lines;
- Methods for Expansion, Cryopreservation and Commercial Manufacture; and
- Tumoricidal and Antimicrobial Compositions of Natural Killer Cell Line Derived Exosomes and Methods-of-Use.

As for the NK cell-based immunotherapy products and processes we develop and commercialize, in the normal course of business, we intend to pursue, when possible, composition, method of use, dosing and formulation patent protection. We may also pursue patent protection with respect to manufacturing and drug development processes and technology. The patents and patent applications outside of the U.S. in our portfolio are held primarily in Europe, Canada, Australia, China, Japan and Korea.

Individual patents extend for varying periods of time, depending upon the date of filing of the patent application, the date of patent issuance, and the legal term of patents in the countries in which they are obtained. Generally, patents issued for applications filed in the U.S. are effective for 20 years from the earliest effective filing date. The patent term may be adjusted to compensate for delayed patent issuance, when such delays are caused by the patent office or successful appeals against patent office actions. There is no limit on this patent term adjustment. In addition, in certain instances, a patent term can be extended to recapture a portion of the term effectively lost as a result of the FDA regulatory review period. The restoration period cannot be longer than five years and the total patent term, including the restoration period, must not exceed 14 years following FDA approval. The duration of patents outside of the U.S. varies in accordance with provisions of applicable local law, but typically is also 20 years from the earliest effective filing date. Our issued patents are anticipated to expire at varying intervals through 2039. If patents are issued on our pending patent applications, the resulting patents are projected to expire at various dates through 2040. However, the actual protection afforded by a patent varies on a product-by-product basis, from country-to-country, and depends upon many factors, including the type of patent, the scope of its coverage, the availability of regulatory-related extensions, the availability of legal remedies in a particular country, and the validity and enforceability of the patent.

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

As of December 31, 2020, our worldwide trademark portfolio was comprised of (i) 12 U.S. trademark registrations; (ii) two pending U.S. trademark application; (iii) 28 foreign trademark registrations, six of which are Madrid Protocol International registrations; and (iv) 24 pending foreign trademark applications.

We may also rely, in some circumstances, on trade secrets to protect our technology. However, trade secrets are difficult to protect. We seek to protect our technology and product candidates, in part, by entering into confidentiality agreements with those who have access to our confidential information, including our employees, contractors, consultants, collaborators, and advisors. We also seek to preserve the integrity and confidentiality of our proprietary technology and processes by maintaining physical security of our premises and physical and electronic security of our information technology systems. Although we have confidence in these individuals, organizations, and systems, agreements or security measures may be breached and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or may be independently discovered by competitors. To the extent that our employees, contractors, consultants, collaborators, and advisors 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. For risks related to our proprietary technology, inventions, improvements and products, please see Part I, Item 1A, “*Risk Factors – Risks Related to Intellectual Property*” and “*Legal Proceedings*” of this Annual Report.

Collaboration Agreements

Joint COVID-19 Collaboration Agreement. As discussed above, on August 21, 2020, we entered into a definitive agreement, which we refer to as the Collaboration Agreement, with ImmunityBio to pursue collaborative joint development, manufacturing and marketing of certain COVID-19 therapeutics and vaccines.

Cost Sharing Agreement. In January 2020, but effective on October 1, 2019, we entered into a Cost Allocation Agreement with ImmunityBio and its subsidiaries to co-sponsor and conduct certain combination clinical trials (each a Joint Study) pursuant to clinical trial protocols wherein at least one investigational agent is a proprietary therapeutic drug candidate owned or controlled by NantKwest and at least one other investigational agent is a proprietary therapeutic drug candidate owned or controlled by ImmunityBio. Prior to initiating any activities for a Joint Study the parties agreed to enter into written work orders describing, amongst other things, development and management responsibilities, allocation of Joint Study costs and expenses, regulatory responsibilities, and any other matters relating to the Joint Study.

Under the Cost Allocation Agreement, each of ImmunityBio and the company will receive exclusive rights to any new intellectual property developed that relates solely to its respective study drug, and the parties will have joint co-equal rights in any other intellectual property. The Cost Allocation Agreement expires on June 22, 2022 with the option to renew for additional successive one-year terms, but work orders for any joint studies still in process at the time of termination will continue until the applicable study is completed.

We and ImmunityBio are splitting certain costs related to these joint studies equally in accordance with the terms of the Cost Allocation Agreement and related work orders. Shared Joint Study costs include cost related to conducting the Joint Study development activities, such as personnel related costs, as well as all costs associated with regulatory matters. Costs and expenses incurred in connection with the development, manufacturing, supply, delivery, and pre-patient administration dosing mechanism of each party's study drug, are excluded from the shared Joint Study costs.

In January 2020, but effective on October 1, 2019, we executed Work Order Number One with ImmunityBio, pursuant to the Cost Allocation Agreement. Under Work Order Number One, the parties are conducting a clinical trial pursuant to the protocol titled QUILT 3.063: *A phase 2 study of combination therapy with an IL-15 superagonist (N-803), off-the-shelf CD16-targeted natural killer cells (haNK), and avelumab without cytotoxic chemotherapy in subjects with Merkel Cell Carcinoma (MCC) that has progressed on or after treatment with a checkpoint inhibitor*. The ImmunityBio study drug included in this Joint Study is ImmunityBio's proprietary IL-15 superagonist known as N-803, and our study drug is our proprietary "off-the-shelf" CD16-targeted natural killer cell therapy known as haNK. We are the sponsor of this Joint Study for purposes of regulatory matters, including submissions, correspondence, and communications. Additionally, we are designated as the contracting party to execute agreements with third and related parties relating to the Joint Study.

In July 2020, but effective on June 22, 2020, we executed Work Order Number Two with ImmunityBio, pursuant to the Cost Allocation Agreement. Under Work Order Number Two, the parties are conducting a clinical trial pursuant to the protocol titled QUILT 88: *Open-label, randomized, comparative phase 2 study of combination immunotherapy with standard-of-care chemotherapy versus standard-of-care chemotherapy for first and second line treatment of locally or advanced metastatic pancreatic cancer*. The ImmunityBio study drugs included in the joint study are ImmunityBio's proprietary IL-15 superagonist (N-803) and Aldoxorubicin Hydrochloride (Aldoxorubicin), and our study drug is PD-L1.t-haNK. ImmunityBio is the sponsor of this Joint Study for purposes of regulatory matters, including submissions, correspondence, and communications with the FDA. Additionally, ImmunityBio is designated as the contracting party to execute agreements with third and related parties relating to this Joint Study.

Licenses

Viracta Therapeutics, Inc. In May 2017, we entered into an agreement with Viracta Therapeutics, Inc., or Viracta, to grant us exclusive worldwide rights to Viracta's phase II drug candidate, VRx-3996, for use in combination with our platform of NK cell therapies. In consideration for the license, we are obligated to pay to Viracta (i) mid-single digit percentage royalties of net sales of licensed products for therapeutic use, and (ii) milestone payments ranging from $10.0 million to $25.0 million for various regulatory approvals and cumulative net sales levels. We may terminate the agreement, in our sole discretion, in whole or on a product-by-product and/or country by country basis, at any time upon 90 days' prior written notice. In addition, either party may terminate the agreement in the event of a material breach or for bankruptcy of the other party.

Hans G. Klingemann, M.D., Ph.D. We hold the worldwide rights, title and interest to the NK-92 cell line, and we believe that we control commercial use of our NK-92 cells in key territories. We also maintain and exclusively control the only clinical grade master cell bank for NK-92. The original NK-92 cell line was isolated by Hans G. Klingemann, M.D., Ph.D., our founder and Vice President of Research and Development, and all patents and patent applications pertaining to this cell line are now in the name of NantKwest, Inc. or ZelleRx Corporation, our former name. In February 2003, we obtained an exclusive, worldwide license from Dr. Klingemann to the NK-92 cell line, and related NK-92 patents and know-how, that had been assigned to him by the British Columbia Cancer Agency, to manufacture, use and sell products covered by the scope of any valid claim in any of the licensed patents. Dr. Klingemann subsequently assigned the cell line and those patents to us, but we are still obligated to pay a single-digit royalty on sales of licensed products to Dr. Klingemann, as well as to pay the British Columbia Cancer Agency a small percentage of our profits from the sale of the NK-92 cell line that Dr. Klingemann obtained from them.

Fox Chase Cancer Center. In July 2004, we entered into an exclusive license agreement with Fox Chase Cancer Center, or Fox Chase, pursuant to which we were granted an exclusive, worldwide, sublicensable license under certain patents and know-how pertaining to CD16 receptors-bearing NK-92 cell lines. We agreed to pay Fox Chase low single-digit royalties on sales of licensed products. We are also obligated to pay Fox Chase a percentage of the royalties and other compensation we receive from sublicensees of our rights from Fox Chase. Fox Chase is obligated to assign the licensed patents to us if we commence a phase III clinical trial of a licensed product and, if this does not occur, our license expires when the last of the licensed patents expires. In late May 2020, we received a letter from Fox Chase alleging breaches of our license. If the letter is found to be a proper notice of termination and the alleged breaches are confirmed and found to be material, we will lose the licensed rights. We do not consider these licensed rights to be material.

Rush University Medical Center. In March 2004, we entered into a license agreement with Rush University Medical Center, pursuant to which Rush University Medical Center granted us an exclusive, worldwide, sublicensable license to certain intellectual property related to clinical use of NK-92 to develop and commercialize products and processes for the treatment of melanoma and renal cancer, or for the diagnosis or treatment of non-melanoma and non-renal cancer. In consideration for the license, we were obligated to pay to Rush University Medical Center single-digit royalties on sales of licensed products with a minimum royalty payment of $25,000 per year for 12 years. The agreement also provided for payments upon completion of certain clinical, regulatory and commercialization milestones. We also agreed to pay to Rush University Medical Center a portion of certain payments that we receive under sublicensing arrangements. The license had a term of 12 years from 2006, the year in which royalty payments were first made, and included customary termination rights for both parties. Beginning in 2018, this license converted to a perpetual, irrevocable, fully paid royalty-free, exclusive license.

University Health Network. In May 2005, we entered into a license agreement with University Health Network, or UHN, pursuant to which we obtained from UHN an exclusive, worldwide, sublicensable license to certain intellectual property relating to NK-92 clinical trials data from UHN to develop and commercialize products and processes for the diagnosis and treatment of certain hematological malignancies. Our license from UHN will automatically expire if we have not filed for regulatory approval or launched a licensed product within specified periods of time, and also includes other customary termination rights for both parties.

Joint Development and License Agreements

Precigen Corporation, Inc. (formerly known as Intrexon Corporation). In February 2010, we entered into a 17-year agreement with Precigen Corporation, Inc., or Precigen, pursuant to which we granted to Precigen a worldwide, sublicensable license which may be exclusive with respect to certain indications designated by Precigen, under certain patents relating to NK-92 cells to develop and commercialize modified NK-92 cells that express Precigen's proprietary gene sequences for use as therapeutic and prophylactic agents in humans in specified therapeutic areas. Precigen paid us a one-time license fee and is also obligated to pay non-material milestone payments with respect to specific indications, a royalty on net sales of the licensed products and a portion of the revenue Precigen receives from third party sublicensees of its rights from us. Precigen has the right to terminate the agreement upon 180 days' notice and both parties have the right to terminate the agreement for the other's uncured breach of the agreement.

We have licensed or sub-licensed our cell lines and intellectual property to numerous other pharmaceutical and biotechnology companies for non-clinical uses such as laboratory testing. Such licenses generally require the licensee to pay an upfront fee and annual research and commercial fees for products sold using our intellectual property and cell lines.

Supply Agreements

We have, and expect that we will continue, to enter into supply agreements with third parties and related parties to provide investigational agents to be used in our clinical trials.

Anticipated Agreements and Considerations

In addition to the collaboration and license agreements discussed above, we may enter into a commercial agreement relating to an IL-15 superagonist product developed by ImmunityBio, if the proposed merger with ImmunityBio is not consummated, and we are also pursuing certain strategic research and/or license agreements with third parties to develop our product candidate pipeline. These types of agreements do not typically specify how sales will be apportioned between the parties upon successful commercialization of the product. As a result, we cannot guarantee that we will receive a percentage of the revenue that is at least proportional to the costs that we will incur in commercializing the product candidate. Furthermore, if Dr. Soon-Shiong was to cease his affiliation with us or with NantWorks, any affiliated entities may be unwilling to continue their relationships with us on commercially reasonable terms, or at all, which in turn may impede our ability to control the supply chain for our combination therapies.

Government Regulation

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 third-party contractors, will be required to navigate the various preclinical, clinical and commercial 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.

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;
- submission to the FDA of an 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 for each clinical site before the clinical trial is begun;
- performance of adequate and well-controlled human clinical trials 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 Biologics License Application, or BLA, after completion of all required clinical trials;
- 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 Advisory Committee review, if applicable;
- 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 investigational sites to assess compliance with current Good Clinical Practices, or 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 annually and when significant 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 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 studies. 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 the 30-day time period, raises safety 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. Submission of an IND therefore may or may not result in FDA authorization to begin a clinical trial.

When a clinical trial using genetically engineered cells is conducted at, or sponsored by, institutions receiving National Institutes of Health, or NIH, funding for recombinant DNA research, prior to the submission of an IND to the FDA, a protocol and related documentation is submitted to and the study is registered with the NIH Office of Biotechnology Activities, or OBA, pursuant to the NIH Guidelines for Research Involving Recombinant DNA Molecules, or NIH Guidelines. Compliance with the NIH Guidelines is mandatory for investigators at institutions receiving NIH funds for research involving recombinant DNA, and many companies and other institutions not otherwise subject to the NIH Guidelines voluntarily follow them. The NIH is responsible for convening the Recombinant DNA Advisory Committee, or RAC, a federal advisory committee that discusses protocols that raise novel or particularly important scientific, safety, or ethical considerations at one of its quarterly public meetings. The OBA will notify the FDA of the RAC's decision regarding the necessity for full public review of a protocol. RAC proceedings and reports are posted to the OBA web site and may be accessed by the public. If the FDA allows the IND to proceed, but the RAC decides that full public review of the protocol is warranted, the FDA will request at the completion of its IND review that sponsors delay initiation of the protocol until after completion of the RAC review process.

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 study. Clinical trials are conducted under protocols detailing, among other things, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. 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. Furthermore, an independent IRB, for each site proposing to conduct the clinical trial must review and approve the plan for any clinical trial and its informed consent form before the clinical trial begins at that site, and must monitor the study until completed. 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 or that the trial is unlikely to meet its stated objectives. Some studies also include oversight by an independent group of qualified experts organized by the clinical study sponsor, known as a data safety monitoring board, which provides authorization for whether or not a study may move forward at designated check points based on access to certain data from the study and may halt the clinical trial if it determines that there is an unacceptable safety risk for subjects or other grounds, such as no demonstration of efficacy. There are also requirements governing the reporting of ongoing clinical studies and clinical study results to public registries.

For purposes of BLA approval, human clinical trials are typically conducted in three sequential phases that may overlap.

- *Phase I.* The biological product is initially introduced into healthy human subjects and tested for safety. In the case of some products for severe or life-threatening diseases, the initial human testing is often conducted in patients.
- *Phase II.* The biological product is evaluated in a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance, optimal dosage and dosing schedule.
- *Phase III.* Clinical trials are undertaken to further evaluate dosage, clinical efficacy, potency, and safety in an expanded patient population at geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk to benefit ratio of the product and provide an adequate basis for product labeling.
- *Phase IV.* 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. These so-called phase IV studies may be made a condition to approval of the BLA.

Phase I, phase II and phase III testing 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. Concurrent 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. To help reduce the risk of the introduction of adventitious agents with use of biological products, the Public Health Service Act, or PHSA, emphasizes the importance of manufacturing control for products whose attributes cannot be precisely defined. 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.

Further, as a result of the COVID-19 pandemic, we may be required to develop and implement additional clinical trial policies and procedures designed to help protect subjects from the COVID-19 virus. For example, the FDA has issued guidance on conducting clinical trials during the pandemic, which describes a number of considerations for sponsors of clinical trials impacted by the pandemic, including certain reporting requirements, and additional guidance on GMP considerations for responding to COVID-19 infection and other topics. We may be required to make further adjustments to our clinical trials or business operations based on current or future guidance and regulatory requirements as a result of the COVID-19 pandemic.

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, and the sponsor of an approved BLA is subject to annual product and establishment user fees. These fees typically increase annually. A waiver of user fees may be obtained under certain limited circumstances.

Within 60 days following submission of the application, the FDA reviews a BLA to determine if it is substantially complete before the agency accepts it for filing. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission and may request additional information. In this event, the BLA must be resubmitted with the additional information. Once a BLA has been filed, 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 an unmet medical need in a serious or life-threatening indication, six months after the FDA accepts the application for filing. The review process is often significantly extended by FDA requests for 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. The FDA may convene an advisory committee to provide clinical insight on application review questions. 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 comply with cGMP requirements and are adequate to assure consistent production of the product within required specifications. FDA regulations also require tissue establishments to register and list their HCT/Ps with the FDA and, when applicable, to evaluate donors through screening and testing. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to assure 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 or information. Notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

The testing and approval process requires substantial time, effort and financial resources, and each may take several years to complete. The FDA may not grant approval on a timely basis, or at all, and we may encounter difficulties or unanticipated costs in our efforts to secure necessary governmental approvals, which could delay or preclude us from marketing our products. After the FDA evaluates a BLA and conducts inspections of manufacturing facilities where the investigational product and/or its drug substance will be produced, the FDA may issue an approval letter, a complete response letter, or a not approval letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A complete response letter indicates that the review cycle of the application is complete and the application is not ready for approval. A complete response letter may request additional information or clarification. The FDA may delay or refuse approval of a BLA if applicable regulatory criteria are not satisfied, require additional testing or information and/or require post-marketing testing and surveillance to monitor safety or efficacy of a product.

If regulatory approval of a product is granted, such approval may entail limitations on the indicated uses for which such product may be marketed. For example, the FDA may approve the BLA with a Risk Evaluation and Mitigation Strategy, or REMS, plan to mitigate risks, which could include medication guides, physician communication plans, or other restrictions to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. The FDA also may condition approval on, among other things, changes to proposed labeling or the development of adequate controls and specifications. Once approved, the FDA may withdraw the product approval if compliance with pre- and post-marketing regulatory standards is not maintained or if problems occur after the product reaches the marketplace. The FDA may require one or more phase IV post-market studies and surveillance to further assess and monitor the product's safety and effectiveness after commercialization, and may limit further marketing of the product based on the results of these post-marketing studies. In addition, 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.

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 product, 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. 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 ten 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. Post-marketing studies or completion of ongoing studies after marketing approval are generally required to verify the biologic's clinical benefit in relationship to the surrogate endpoint or ultimate outcome in relationship to the clinical benefit. In addition, the Food and Drug Administration Safety and Innovation Act, or FDASIA, which was enacted and signed into law in 2012, established breakthrough therapy designation. 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 II 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 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. Breakthrough designation also allows the sponsor to file sections of the BLA for review on a rolling basis. We may seek designation as a breakthrough therapy for some or all of our product candidates.

Fast track designation, priority review and breakthrough therapy designation do not change the standards for approval but may expedite the development or approval process.

Orphan Drugs

Under the Orphan Drug Act, the FDA may grant orphan designation 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. Orphan drug designation must be requested before submitting a BLA. After the FDA grants orphan drug designation, the generic identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA.

If a product that has orphan drug designation 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, which means that the FDA may not approve any other applications, including a full BLA, to market the same biologic for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity or 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 orphan drug designation are tax credits for certain research and a waiver of the BLA application user fee.

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.

Post-Approval Requirements

Any products manufactured or distributed by us pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to record keeping, reporting of adverse experiences, periodic reporting, distribution, and advertising and promotion of the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing, annual user fee requirements for any marketed products and the establishments at which such products are manufactured, as well as new application fees for supplemental applications with clinical data. Biologic manufacturers and their subcontractors are required to register their establishments 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, which impose certain procedural and documentation requirements upon us and any third-party manufacturers that we may decide to use. Changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting requirements upon us, and any third party manufacturers, that we may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance. We cannot be certain that we or our present or future suppliers will be able to comply with the cGMP regulations and other FDA regulatory requirements. If our present or future suppliers are not able to comply with these requirements, the FDA may, among other things, halt our clinical trials, require us to recall a product from distribution, or withdraw approval of the BLA.

Future FDA and state inspections may identify compliance issues at our facilities or at the facilities of contract manufacturers that may disrupt production or distribution, or require substantial resources to correct. In addition, discovery of previously unknown problems with a product or the failure to comply with applicable requirements may result in restrictions on a product, manufacturer or holder of an approved BLA, including withdrawal or recall of the product from the market or other voluntary, FDA-initiated or judicial action that could delay or prohibit further marketing.

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

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters or holds on post-approval clinical studies;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA closely regulates the marketing, labeling, advertising and promotion of biologics. A company can make only those claims relating to safety and efficacy, purity and potency that are approved by the FDA and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. Failure to comply with these requirements can result in, among other things, adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties, and exclusion from participation in governmental health programs, like Medicare and Medicaid. Physicians may prescribe legally available products for uses that are not described in the product’s labeling and that differ from those tested by us and approved by the FDA. Such off-label uses are common across medical specialties. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict manufacturer’s communications on the subject of off-label use of their products.

Other Healthcare Laws and Compliance Requirements

Our sales, promotion, medical education, clinical research and other activities following product approval will be subject to regulation by numerous regulatory and law enforcement authorities in the U.S. in addition to the FDA, including potentially the Federal Trade Commission, the Department of Justice, the Centers for Medicare and Medicaid Services, or CMS, other divisions of the U.S. Department of Health and Human Services and state and local governments. Our promotional and scientific/educational programs must comply with the federal Anti-Kickback Statute, the False Claims Act, physician payment transparency laws, privacy laws, security laws, and additional federal and state laws similar to the foregoing.

The federal Anti-Kickback Statute prohibits, among other things, the knowing and willing, direct or indirect offer, receipt, solicitation or payment of remuneration in exchange for or to induce the referral of patients, including the purchase, order or lease of any good, facility, item or service that would be paid for in whole or part by Medicare, Medicaid or other federal health care programs. Remuneration has been broadly defined to include anything of value, including cash, improper discounts, and free or reduced price items and services. The federal Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand and prescribers, purchasers, formulary managers, and beneficiaries on the other. Although there are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution, the exceptions and safe harbors are drawn narrowly. Practices that involve remuneration that may be alleged to be intended to induce prescribing, purchases or recommendations may be subject to scrutiny if they do not qualify for an exception or safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the federal Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all its facts and circumstances. Several courts have interpreted the statute's intent requirement to mean that if any one purpose of an arrangement involving remuneration is to induce referrals of federal healthcare covered business, the federal Anti-Kickback Statute has been violated. The government has enforced the federal Anti-Kickback Statute to reach large settlements with healthcare companies based on sham research or consulting and other financial arrangements with physicians. Further, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it to have committed a violation. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act. Many states have similar laws that apply to their state health care programs, as well as private payors.

Federal false claims and false statement laws, including the federal civil False Claims Act, or FCA, imposes liability on persons or entities that, among other things, knowingly present or cause to be presented claims that are false or fraudulent or not provided as claimed for payment or approval by a federal health care program. The FCA has been used to prosecute persons or entities that "cause" the submission of claims for payment that are inaccurate or fraudulent, by, for example, providing inaccurate billing or coding information to customers, promoting a product off-label, submitting claims for services not provided as claimed, or submitting claims for services that were provided but not medically necessary. Actions under the FCA may be brought by the Attorney General, or as a qui tam action by a private individual, in the name of the government. Violations of the FCA can result in significant monetary penalties and treble damages. The federal government is using the FCA, and the accompanying threat of significant liability, in its investigation and prosecution of pharmaceutical and biotechnology companies throughout the country, for example, in connection with the promotion of products for unapproved uses and other illegal sales and marketing practices. The government has obtained multi-million and multi-billion dollar settlements under the FCA in addition to individual criminal convictions under applicable criminal statutes. In addition, certain companies that were found to be in violation of the FCA have been forced to implement extensive corrective action plans and have often become subject to consent decrees or corporate integrity agreements, restricting the manner in which they conduct their business.

The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, created additional federal criminal statutes that prohibit, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors; knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services; and willfully obstructing a criminal investigation of a healthcare offense. Like the federal Anti-Kickback Statute, the Affordable Care Act amended the intent standard for certain healthcare fraud statutes under HIPAA such that a person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

Given the significant size of actual and potential settlements, it is expected that the government will continue to devote substantial resources to investigating healthcare providers' and manufacturers' compliance with applicable fraud and abuse laws. In addition, many states have similar fraud and abuse statutes or regulations that may be broader in scope and may apply regardless of payor, in addition to items and services reimbursed under Medicaid and other state programs. Additionally, to the extent that our products, once commercialized, are sold in a foreign country, we may be subject to similar foreign laws.

In addition, there has been a recent trend of increased federal and state regulation of payments made to physicians and other healthcare providers. The Physician Payment Sunshine Act, or the Sunshine Act, enacted as part of the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively, the Affordable Care Act, among other things, imposed new reporting requirements on certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, for payments and other transfers of value made by them to physicians and teaching hospitals, as defined by law, as well as ownership and investment interests held by physicians and their immediate family members. Effective January 1, 2022, these annual reporting obligations will extend to include payments and transfers of value made during the previous year to certain non-physician covered recipients, such as physician assistants, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetists, anesthesiologist assistants, and certified nurse-midwives. Covered manufacturers are required to collect and report detailed payment data and submit legal attestation to the accuracy of such data to the government each year. Failure to submit required information may result in civil monetary penalties of up to an aggregate of $176,495 per year (or up to an aggregate of $1,176,638 per year for "knowing failures"), subject to adjustment for inflation, for all payments, transfers of value or ownership or investment interests that are not timely, accurately and completely reported in an annual submission. Additionally, entities that do not comply with mandatory reporting requirements may be subject to a corporate integrity agreement. Non-compliance under the Sunshine Act may increase government scrutiny and increase liability under other healthcare laws. Certain states also mandate implementation of commercial compliance programs, impose restrictions on covered manufacturers' marketing practices and/or require the tracking and reporting of gifts, compensation and other remuneration to physicians and other healthcare professionals.

We may also be subject to data privacy and security regulation by both the federal government and the states in which we conduct our business. HIPAA, as amended by the Health Information Technology and Clinical Health Act, or HITECH, and their respective implementing regulations, imposes specified requirements on certain health care providers, plans and clearinghouses (collectively, "covered entities") and their "business associates," relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH makes HIPAA's security standards directly applicable to "business associates," defined as independent contractors or agents of covered entities that create, receive, maintain or transmit protected health information in connection with providing a service for or on behalf of a covered entity. HITECH also increased the civil and criminal penalties that may be imposed against covered entities, business associates and possibly other persons, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce HIPAA and seek attorney's fees and costs associated with pursuing federal civil actions. In addition, certain states have their own laws that govern the privacy and security of health information in certain circumstances, many of which differ from each other and/or HIPAA in significant ways and may not have the same effect, thus complicating compliance efforts.

If our operations are found to be in violation of any of such laws or any other governmental regulations that apply to us, we may be subject to penalties, including, without limitation, civil and criminal penalties, damages, fines, disgorgement, the curtailment or restructuring of our operations, exclusion from participation in federal and state healthcare programs, imprisonment, contractual damages, reputational harm, and diminished profits and future earnings, any of which could adversely affect our ability to operate our business and our financial results.

In addition to the foregoing health care laws, we are also subject to the U.S. Foreign Corrupt Practices Act, or FCPA, and similar worldwide anti-bribery laws, which generally prohibit companies and their intermediaries from making improper payments to government officials or private-sector recipients for the purpose of obtaining or retaining business. We also maintain an anti-corruption policy which mandates compliance with the FCPA and similar anti-bribery laws applicable to our business throughout the world. However, we cannot assure you that such a policy, or procedures implemented to enforce such a policy, will protect us from intentional, reckless or negligent acts committed by our employees, 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.

Coverage and Reimbursement

Sales of pharmaceutical products depend significantly on the extent to which coverage and adequate reimbursement are provided by third-party payors. Third-party payors include state and federal government health care programs, managed care providers, private health insurers and other organizations. Although we currently believe that third-party payors will provide coverage and reimbursement for our product candidates, if approved, we cannot be certain of this. Third-party payors are increasingly challenging the price, examining the cost-effectiveness, and reducing reimbursement for medical products and services. In addition, significant uncertainty exists as to the reimbursement status of newly approved healthcare products. The U.S. government, state legislatures and foreign governments have continued implementing cost containment programs, including price controls, restrictions on coverage and reimbursement and requirements for substitution of generic products. Adoption of price controls and cost containment measures and adoption of more restrictive policies in jurisdictions with existing controls and measures could further limit our net revenue and results. We may need to conduct expensive clinical studies to demonstrate the comparative cost-effectiveness of our products. The product candidates that we develop may not be considered cost-effective and thus may not be covered or

sufficiently reimbursed. It is time consuming and expensive for us to seek coverage and reimbursement from third-party payors, as each payor will make its own determination as to whether to cover a product and at what level of reimbursement. Thus, one payor's decision to provide coverage and adequate reimbursement for a product does not assure that another payor will provide coverage or that the reimbursement levels will be adequate. Moreover, a payor's decision to provide coverage for a drug product does not imply that an adequate reimbursement rate will be approved. Reimbursement may not be available or sufficient to allow us to sell our products on a competitive and profitable basis.

Healthcare Reform

The U.S. and some foreign jurisdictions are considering 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 legislative initiatives.

By way of example, in March 2010, the Affordable Care Act was signed into law, intended to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for the healthcare and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. Among the provisions of the Affordable Care Act of importance to our potential drug candidates are:

- an annual, nondeductible fee on any entity that manufactures or imports certain branded prescription drugs and biologic agents, apportioned among these entities according to their market share in certain government healthcare programs, not including orphan drug sales;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program to 23.1% and 13% of the average manufacturer price for most branded and generic drugs, respectively;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 70% point-of-sale discounts on negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D;
- extension of manufacturers' Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;
- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for certain individuals with income at or below 133% of the Federal Poverty Level, thereby potentially increasing manufacturers' Medicaid rebate liability;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;
- new requirements for certain manufacturers of drugs, devices, biologics, and medical supplies for which payment is available under Medicare, Medicaid, or the Children's Health Insurance Program, with specific exceptions to report annually certain financial arrangements with physicians, as defined by such law, and teaching hospitals, as defined in ACA and its implementing regulations, including reporting any payment or "transfer of value" provided to physicians and teaching hospitals and any ownership and investment interests held by physicians and their immediate family members during the preceding calendar year;
- expansion of healthcare fraud and abuse laws, including the U.S. federal False Claims Act and the U.S. federal Anti-Kickback Statute, new government investigative powers and enhanced penalties for noncompliance;
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in and conduct comparative clinical effectiveness research, along with funding for such research; and
- a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted, or injected.

In addition, other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. These changes include, among others, the Budget Control Act of 2011, which mandates aggregate reductions to Medicare payments to providers of up to 2% per fiscal year effective April 1, 2013, and, will remain in effect through 2030, with the exception of a temporary suspension implemented under various COVID-19 relief legislation from May 1, 2020 through March 31, 2021, unless additional Congressional action is taken. The American Taxpayer Relief Act of 2012, which, among other things, further reduced Medicare payments to several providers, including hospitals and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other healthcare funding, which could have a material adverse effect on customers for our product candidates, if approved, and, accordingly, our financial operations.

We expect that the Affordable Care Act, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and lower reimbursement and in additional downward pressure on the price that we receive for any approved product. 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. Furthermore, the current presidential administration and Congress may continue to attempt broad sweeping changes to the current health care laws. We face uncertainties that might result from modifications or repeal of any of the provisions of the Affordable Care Act, including as a result of current and future executive orders and legislative actions. The impact of those changes on us and potential effect on the pharmaceutical and biotechnology industries as a whole is currently unknown. However, any changes to the Affordable Care Act are likely to have an impact on our results of operations and may have a material adverse effect on our results of operations. We cannot predict what other healthcare programs and regulations will ultimately be implemented at the federal or state level or the effect any future legislation or regulation in the U.S. may have on our business.

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.

Employees

As of December 31, 2020, we had 171 employees. Among our employees, 23% are focused on research and development, 8% on clinical development and regulatory, 51% on manufacturing and quality, and 18% on general and administrative functions. Personnel of related companies who provide corporate, general and administrative, manufacturing strategy, research and development, regulatory and clinical trial strategy and other administrative support services under our shared services agreement with NantWorks are not included in this number. For additional information, see Note 10, *Related Party Agreements*, of the “Notes to Consolidated Financial Statements” included in Part II, Item 8 of this Annual Report. We believe our ability to successfully achieve our vision depends on how effectively we manage our growth. Our leadership is focused on continuing to implement and improve our management systems, recruit and train new employees and cultivate and retain our existing team members. Our employees are a highly unique group of individuals across our drug discovery, preclinical development, clinical operations, regulatory affairs, manufacturing and quality, and executive leadership teams with deep experience in biotech across a breadth of novel scientific areas. We offer competitive compensation and benefits to all employees, as well as a host of other programs that enhance employee well-being in and outside of the workplace. We believe we have a positive relationship with our employees, and none of our employees are represented by a labor union or covered by collective bargaining agreements.

Corporate Information

We were incorporated on October 7, 2002 in the state of Illinois under the name ZelleRx Corporation. On January 22, 2010, we changed our name to Conkwest, Inc. In March 2014, we formed Conkwest, Inc., our wholly owned subsidiary in the state of Delaware, or Conkwest Delaware, for the purposes of changing the state of our incorporation to the state of Delaware. In March 2014, we merged with and into Conkwest Delaware, with Conkwest Delaware surviving the merger. On July 10, 2015, we changed our name to NantKwest, Inc. Our website address is www.nantkwest.com. The contents of our website are not incorporated by reference into this Form 10-K. We provide free of charge through a link on our website access to our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as amendments to those reports, as soon as reasonably practical after the reports are electronically filed with, or furnished to, the Securities and Exchange Commission.

Item 1A. Risk Factors.

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as other information included in this Annual Report on Form 10-K, or Annual Report, including our financial statements and the related notes, and the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations," any of which may be relevant to decisions regarding an investment in or ownership of our stock. The occurrence of any of these risks could have a significant adverse effect on our reputation, business, financial condition, results of operations, growth and ability to accomplish our strategic objectives. We have organized the description of these risks into groupings in an effort to enhance readability, but many of the risks interrelate or could be grouped or ordered in other ways, so no special significance should be attributed to the groupings or order below.

Risk Factor Summary

Risks Related to Our Financial Condition and Capital Requirements:

- We are a clinical-stage biopharmaceutical company with a limited operating history and have incurred significant losses since our inception, and we anticipate that we will continue to incur losses for the foreseeable future, which makes it difficult to assess our future viability.
- We do not have any therapeutic products that are approved for commercial sale. Our ability to generate revenue from product sales and achieve and maintain profitability depends significantly on our success in a number of factors.
- We will need to obtain substantial additional financing to complete the development and any commercialization of our product candidates, and a failure to obtain this necessary capital when needed on acceptable terms, or at all, could force us to delay, limit, reduce or terminate our commercialization efforts, product development or other operations.
- We expect our business to be adversely affected by outbreaks of epidemic, pandemic or contagious diseases, including the ongoing coronavirus pandemic.
- We may use our financial and human resources to pursue a particular type of treatment, or treatment for a particular type of cancer, and fail to capitalize on programs or treatment of other types of cancer that may be more profitable or for which there is a greater likelihood of success.

Risks Relating to Our Business and Industry:

- The foundation of our business is based upon the success of our aNK cells as a technology platform. Our aNK platform and product candidates derived thereof, including genetically modified haNK, taNK, t-haNK ceNK and MSC product candidates, will require significant additional clinical testing before we can potentially seek regulatory approval and launch commercial sales.
- Utilizing haNK, taNK, t-haNK and ceNK cells represents a novel approach to immunotherapy, including cancer treatment, and we must overcome significant challenges in order to successfully develop, commercialize and manufacture our product candidates.
- Even if we successfully develop and commercialize our haNK product candidate for Merkel cell carcinoma, we may not be successful in developing and commercializing our other product candidates, and our commercial opportunities may be limited.
- We may not be able to file INDs to commence additional clinical trials on the timelines we expect, and even if we are able to, the FDA may not permit us to proceed in a timely manner, or at all.
- Our plans to support the Joint COVID-19 Collaboration by moving some of our current manufacturing facilities or repurposing personnel may cause delays in our oncology trials.
- Our efforts regarding the Joint COVID-19 Collaboration may be difficult to integrate into our current operations and will require additional personnel who will require training, which may cause some of our employees to reallocate their time from our current operations or manufacturing duties, which could in turn cause delays in clinical supply of our products or trials.
- We face significant competition in the biopharmaceutical industry, and many of our competitors have substantially greater experience and resources than we have.

Risks Relating to Government Regulation:

- We may fail to obtain or may experience delays in obtaining regulatory approval to market our aNK platform product candidates, which will significantly harm our business.
- Even if we obtain regulatory approvals for aNK related platform products, those approvals and ongoing regulation of our products may limit how we manufacture and market our products, which could prevent us from realizing the full benefit of our efforts.
- Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not mean that we will be successful in obtaining regulatory approval of our product candidates in other jurisdictions.
- We may seek orphan drug status or breakthrough therapy designation for one or more of our product candidates, but even if either is granted, we may be unable to maintain any benefits associated with breakthrough therapy designation or orphan drug status, including market exclusivity.
- We will need to obtain FDA approval of any proposed product brand names, and any failure or delay associated with such approval may adversely impact our business.

Risks Relating to Our Intellectual Property:

- If our efforts to protect the intellectual property related to our product candidates are not adequate, we may not be able to compete effectively in our market.
- Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.
- We may not be able to protect our intellectual property rights throughout the world.
- Obtaining and maintaining our patent protection depends on compliance with various procedural, documentary, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.
- Third-party claims alleging intellectual property infringement may adversely affect our business.
- We may become involved in lawsuits to protect or enforce our patents or other intellectual property or the patents of our licensors, which could be expensive and time consuming.

Risks Relating to our Proposed Merger with ImmunityBio

- We may suffer negative consequences if the proposed merger is not completed.
- We may not consummate the proposed merger with ImmunityBio in the time frame anticipated or at all.
- The combined company may not realize all of the anticipated benefits of the proposed merger.

Risks Relating to Our Common Stock:

- Our Executive Chairman, and entities affiliated with him, collectively own a significant majority of our common stock and will exercise significant influence over matters requiring stockholder approval, regardless of the wishes of other stockholders.
- The market price of our common stock has been and may continue to be volatile, and investors may have difficulty selling their shares.
- Future sales and issuances of our common stock or rights to purchase common stock, including pursuant to our equity incentive plan, could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall.
- We have incurred and will continue to incur costs as a result of operating as a public company and our management has been and will be required to devote substantial time to compliance initiatives and corporate governance practices, including maintaining an effective system of internal control over financial reporting.
- If a restatement of our financial statements were to occur, our shareholders’ confidence in the company’s financial reporting in the future may be affected, which could in turn have a material adverse effect on our business and stock price.

Risks Related to Our Financial Condition and Capital Requirements

We are a clinical-stage biopharmaceutical company with a limited operating history and have incurred significant losses since our inception, and we anticipate that we will continue to incur losses for the foreseeable future, which makes it difficult to assess our future viability.

We are a clinical-stage biopharmaceutical company with a limited operating history upon which our business can be evaluated. To date, we have generated minimal revenue related to the non-clinical use of our cell lines and intellectual property, and we have no products approved for commercial sale and have not generated any revenue from product sales. We have incurred operating losses on an annual basis since our formation and we may never become profitable. As of December 31, 2020, we had an accumulated deficit of $754.6 million. We incurred net losses of $92.4 million, $65.8 million, and $96.2 million for the years ended December 31, 2020, 2019 and 2018, respectively. Our losses have resulted principally from costs incurred in ongoing preclinical studies, clinical trials and operations, as well as other research and development expenses, and general and administrative expenses.

A critical aspect of our strategy is to invest significantly in expanding our haNK, taNK, t-haNK, MSC and ceNK platforms and the development of our product candidates. We expect to incur significant expenses as we continue to expand our business, including in connection with conducting research and development across multiple therapeutic areas, participating in clinical trial activities, continuing to acquire or in-license technologies, maintaining, protecting and expanding our intellectual property, seeking regulatory approvals and, upon successful receipt of U.S. Food and Drug Administration, or FDA, approval, commercializing our products. We will also incur costs as we hire additional personnel and increase our manufacturing capabilities, including the lease or purchase of a facility for the manufacturing of our product candidates for our ongoing and any future clinical trials and, upon receipt of any FDA approval, for our initial commercialization activities. Moreover, we do not expect to have any significant product sales or revenue for at least the next several years. These losses have had and, as our operating losses continue to increase significantly in the future due to these expenditures, will continue to have an adverse effect on our stockholders' equity and working capital. Because of the numerous risks and uncertainties associated with our product development efforts, we are unable to predict when we may become profitable, if at all. Additionally, our net losses may fluctuate significantly from quarter to quarter, and as a result, a period-to-period comparison of our results of operations may not be meaningful. For example, we expect our operating expenses to continue to increase in the year ended December 31, 2021, due to increased research and development expenses including personnel related costs and capital and facility operating expenditures in continued efforts for our Joint COVID-19 Collaboration with ImmunityBio. Additionally, we also expect to incur increased costs associated with our proposed merger with ImmunityBio. Even if we do become profitable, we may not be able to sustain or increase our profitability on a quarterly or annual basis. In addition, we expect increased expenses in future quarters as a result of the Joint COVID-19 Collaboration.

We do not have any therapeutic products that are approved for commercial sale. Our ability to generate revenue from product sales and achieve and maintain profitability depends significantly on our success in a number of factors.

We currently do not have any therapeutic products that are approved for commercial sale. We have not received, and do not expect to receive for at least the next several years, if at all, any revenues from the commercialization of our product candidates if approved. To obtain revenue from sales of our product candidates that are significant or large enough to achieve profitability, we must succeed, either alone or with third or related parties, in developing, obtaining regulatory approval for, manufacturing and marketing therapies with commercial potential. Our ability to generate revenue and achieve and maintain profitability depends significantly on our success in many areas, including:

- our research and development efforts, including preclinical studies and clinical trials of our haNK, taNK, t-haNK, ceNK and MSC platforms and our product candidates;
- continuing to develop sustainable, scalable, reliable and cost-effective manufacturing and distribution processes for our product candidates, if approved, including establishing and maintaining commercially viable supply relationships with third and related parties and establishing our own current Good Manufacturing Practices, or cGMP, manufacturing facilities and processes to support clinical development and meet the market demand for product candidates that we develop, if approved;
- addressing any competing therapies and technological and industry developments;
- identifying, assessing, acquiring and developing new technology platforms and product candidates across numerous therapeutic areas;
- establishing and maintaining relationships with contract research organizations, or CROs, and clinical sites for the clinical development, both in the U.S. and internationally, of our product candidates;
- successful and timely completion of preclinical and clinical development of our product candidates and any other future product candidates;

- obtaining regulatory approvals and marketing authorizations for our current and future product candidates, including a continued acceptable safety profile both prior to and following any marketing approval of our product candidates;
- making any required post-marketing approval commitments to applicable regulatory authorities;
- launching and commercializing any approved products, either directly or with a collaborator or distributor, including the development of a commercial infrastructure;
- obtaining market acceptance of and acceptable reimbursement for any approved products;
- completing collaborations, licenses and other strategic transactions on favorable terms, if at all;
- maintaining, protecting and expanding our portfolio of intellectual property rights, including patents, trade secrets and know-how;
- defending against third-party interference or infringement claims, if any; and
- attracting, hiring and retaining qualified personnel.

Even if one or more of our product candidates is eventually approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate and we may not generate significant revenue from sales of such products, resulting in limited or no profitability in the future. Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' equity and working capital for the foreseeable future. Any failure to become and remain profitable may adversely affect the market price of our common stock, our ability to raise additional capital and our future viability.

We will need to obtain substantial additional financing to complete the development and any commercialization of our product candidates, and a failure to obtain this necessary capital when needed on acceptable terms, or at all, could force us to delay, limit, reduce or terminate our commercialization efforts, product development or other operations.

Since our inception, we have used substantial amounts of cash to fund our operations and expect our expenses to increase substantially in the foreseeable future. Developing our product candidates and conducting clinical trials for the treatment of cancer, virally infectious diseases, and other diseases requires substantial amounts of capital. We will also require a significant additional amount of capital to commercialize any approved products.

As of December 31, 2020, we had cash and cash equivalents of $11.4 million and marketable debt securities of $54.8 million. We are using and expect to continue to use our existing cash and cash equivalents and marketable debt securities to fund expenses in connection with our ongoing and any future clinical trials, our manufacturing facilities and processes and the hiring of additional personnel, and for other research and development activities, working capital and general corporate purposes, including our previously announced share repurchase program. As a result of continuing anticipated operating cash outflows, we believe that substantial doubt exists regarding our ability to continue as a going concern without additional funding or financial support. However, we believe our existing cash, cash equivalents, and investments in marketable debt securities, and our ability to borrow from affiliated entities, will be sufficient to fund operations through at least the next 12 months following the issuance date of the financial statements based primarily upon our Executive Chairman's intent and ability to support our operations with additional funds, including loans from affiliated entities, as required, which we believe alleviates such doubt. Our estimate as to how long we expect our existing cash and cash equivalents to be available to fund our operations is based on assumptions that may be proved inaccurate, and we could deplete our available capital resources sooner than we currently expect. In addition, changing circumstances, including the completion of the proposed merger with ImmunityBio, may cause us to consume capital significantly faster than we currently anticipate, and we may need to spend more money than currently expected because of circumstances beyond our control. We may require additional capital for the further development and any commercialization of our product candidates and may need to raise additional funds sooner than we anticipate if we choose to expand more rapidly.

Our future capital requirements may depend on, and could increase significantly as a result of, many factors, including:

- the timing of, and the costs involved in, preclinical and clinical development and obtaining any regulatory approvals for our oncology product candidates;
- the timing of, and the costs involved with, the joint development, manufacturing and marketing of a vaccine and multiple therapeutics for COVID-19 with ImmunityBio;
- the costs of manufacturing, distributing and processing our product candidates and any products for which we receive regulatory approval, if any;
- the number and characteristics of any other product candidates we develop or acquire;

- our ability to establish and maintain strategic collaborations, licensing or other commercialization arrangements and the terms and timing of such arrangements, including our arrangements with ImmunityBio and its subsidiaries and Viracta;
- the degree and rate of market acceptance of any approved products;
- the emergence, approval, availability, perceived advantages, relative cost, relative safety and relative efficacy of other products or treatments;
- the expenses needed to attract and retain skilled personnel;
- the costs associated with being a public company;
- the costs associated with our proposed merger with ImmunityBio;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing intellectual property claims, including litigation costs and the outcome of such litigation;
- the costs related to commercializing product candidates independently;
- the timing, receipt and amount of sales of, or royalties on, any approved products; and
- any product liability or other lawsuits related to our product candidates or the company.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our common stockholders' rights. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic alliances or licensing arrangements with pharmaceutical partners, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates, or grant licenses on terms that may not be favorable to us. Additional capital may not be available when we need it, on terms that are acceptable to us or at all. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market any approved products that we would otherwise prefer to develop and market ourselves, or be unable to continue or expand our operations or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, financial condition and results of operations and cause the price of our common stock to decline.

We expect our business to be adversely affected by outbreaks of epidemic, pandemic or contagious diseases, including the ongoing coronavirus pandemic.

Outbreaks of epidemic, pandemic or contagious diseases, such as the coronavirus pandemic, may significantly disrupt our operations and adversely affect our business, financial condition and results of operations. In March 2020, the World Health Organization declared the outbreak of COVID-19 a global pandemic as the novel coronavirus continued to spread throughout the world. The spread of this pandemic has caused significant volatility and uncertainty in the U.S. and international markets and has resulted in increased risks to our operations. We are monitoring a number of risks related to this pandemic, including the following:

- Financial: While to date, the financial impact to our business has not been material, we anticipate that the pandemic could have an adverse financial impact in the short-term and potentially beyond. As a result of slower patient enrollment, we may not be able to complete our clinical trials as planned or in a timely manner. We expect to continue spending on research and development during the year ended December 31, 2021 and beyond, and we could also have unexpected expenses related to the pandemic. The short-term continued expenses, as well as the overall uncertainty and disruption caused by the pandemic, will likely cause a delay in our ability to commercialize a product and adversely impact our financial results.
- Supply Chain: While to date we have not experienced significant disruptions in our supply chain and distribution, an extended duration of this pandemic could result in disruptions in the future. For example, quarantines, shelter-in-place and similar government orders, travel restrictions and health impacts of the COVID-19 pandemic, could impact the availability or productivity of personnel at third-party laboratory supply manufacturers, distributors, freight carriers and other necessary components of our supply chain. In addition, there may be unfavorable changes in the availability or cost of raw materials, intermediates and other materials necessary for production, which may result in disruptions in our supply chain and adversely affect our ability to manufacture and distribute certain product candidates for clinical supply.

- Clinical Trials: This pandemic did not significantly impact our business or financial results during the year ended December 31, 2020, however, it is likely to adversely affect certain of our clinical trials, including our ability to initiate and complete our clinical trials within the anticipated timelines. Due to site and participant availability during the pandemic, new subject enrollment is expected to slow in the short-term for most of our clinical trials. For ongoing trials, we have seen an increasing number of clinical trial sites imposing restrictions on patient visits to limit risks of possible COVID-19 exposure, and we may experience issues with participant compliance with clinical trial protocols as a result of quarantines, travel restrictions and interruptions to healthcare services. The current pressures on medical systems and the prioritization of healthcare resources toward the COVID-19 pandemic have also resulted in interruptions in data collection and submissions for certain clinical trials and delayed starts for certain planned studies. As a result, our anticipated filing and marketing timelines may be adversely impacted.
- Overall economic and capital markets decline: The impact of the COVID-19 pandemic could result in a prolonged recession or depression in the U.S. or globally that could harm the banking system, limit demand for all products and services and cause other seen and unforeseen events and circumstances, all of which could negatively impact us. The continued spread of COVID-19 has led to and could continue to lead to severe disruption and volatility in the U.S. and global capital markets, which could result in a decline in stock price, increase our cost of capital and adversely affect our ability to access the capital markets in the future. In addition, trading prices on the public stock market, including our common stock, have been highly volatile as a result of the COVID-19 pandemic.
- Regulatory Reviews: The operations of the FDA or other regulatory agencies may be adversely affected. In response to COVID-19, federal, state and local governments are issuing new rules, regulations, orders and advisories on a regular basis. These government actions can impact us, our members and our suppliers. There is also the possibility that we may experience delays with obtaining approvals for our Investigational New Drug, or IND, applications.

The foregoing and other risks may have an adverse effect on our overall business, financial condition and results of operations. Additionally, the ongoing COVID-19 pandemic may also affect our operating and financial results in a manner that is not presently known to us or that we currently have not considered as significant risks to our operations. This pandemic may also amplify many of the other risks described throughout the “Risk Factors” section of this Annual Report. Any resulting financial impact cannot be reasonably estimated at this time. The extent to which the COVID-19 pandemic impacts our business and results will depend on future developments, which are uncertain and cannot be predicted with confidence, including the duration and scope of the outbreak, any potential future waves of the pandemic, new information which may emerge concerning the severity of COVID-19 and the ongoing and future actions to contain it or treat its impact, among others.

We may use our financial and human resources to pursue a particular type of treatment, or treatment for a particular type of cancer, and fail to capitalize on programs or treatment of other types of cancer that may be more profitable or for which there is a greater likelihood of success.

Because we have limited resources, we must choose to pursue and fund the development of specific types of treatment, or treatment for a specific type of cancer or viral infectious diseases, and may forego or delay pursuit of opportunities with other programs, investigational medicines, or treatment for other types of cancer or viral infectious diseases, which could later prove to have greater commercial potential. Moreover, given the rapidly evolving competitive landscape and the time it takes to advance a product through clinical development, an incorrect decision to pursue a particular type of treatment or cancer may have a material adverse effect on our results of operation and negatively impact our future clinical strategies. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs for investigational medicines or clinical trials may not yield any commercially viable products. If we do not accurately evaluate and anticipate the commercial potential or target market for a particular type of treatment or cancer or viral infectious disease, we may choose to spend our limited resources on a particular treatment, or treatment for a particular type of cancer or viral infectious disease, and then later learn that another type of treatment or cancer that we previously decided not to pursue would have been more advantageous.

We invest our cash on hand in various financial instruments which are subject to risks that could adversely affect our business, results of operations, liquidity and financial condition.

We invest our cash in a variety of financial instruments, principally commercial paper, corporate debt securities and foreign government bonds. All of these investments are subject to credit, liquidity, market and interest rate risk. Such risks, including the failure or severe financial distress of the financial institutions that hold our cash, cash equivalents and investments, may result in a loss of liquidity, impairment to our investments, realization of substantial future losses, or a complete loss of the investments in the long-term, which may have a material adverse effect on our business, results of operations, liquidity and financial condition. In order to manage the risk to our investments, we maintain an investment policy that, among other things, limits the amount that we may invest in any one issue or any single issuer and requires us to only invest in high credit quality securities to preserve liquidity.

Risks Relating to Our Business and Industry

The foundation of our business is based upon the success of our aNK cells as a technology platform. Our aNK platform and product candidates derived thereof, including genetically modified haNK, taNK, t-haNK, ceNK and MSC product candidates, will require significant additional clinical testing before we can potentially seek regulatory approval and launch commercial sales.

Our business and future success depend on our ability to utilize our aNK cells as a technology platform, and to obtain regulatory approval for one or more product candidates derived from it, and then successfully commercialize our product candidates addressing numerous therapeutic areas. Our aNK platform and our haNK, taNK, t-haNK, ceNK and MSC product candidates are in varying stages of development and may never become commercialized. All of our product candidates developed from our technology platform will require additional clinical and non-clinical development, regulatory review and approval in multiple jurisdictions, substantial investment, access to sufficient commercial manufacturing capacity and significant marketing efforts before they can be successfully commercialized. Because all of our product candidates are based on the same core aNK technology, if any of our product candidates encounter safety or efficacy problems, developmental delays or regulatory issues or other problems, these could impact the development plans for our other product candidates.

Utilizing haNK, taNK, t-haNK and ceNK cells represents a novel approach to immunotherapy, including cancer treatment, and we must overcome significant challenges in order to successfully develop, commercialize and manufacture our product candidates.

We have concentrated our research and development efforts on utilizing aNK cells as an immunotherapy platform and genetically modified aNK cells as product candidates based on this platform. We believe that our product candidates represent a novel approach to immunotherapy, including cancer treatment. Advancing this novel immunotherapy creates significant challenges for us, including:

- educating medical personnel regarding the potential side effect profile of our cells;
- training a sufficient number of medical personnel how to properly administer our cells;
- enrolling sufficient numbers of patients in clinical trials;
- developing a reliable, safe and effective means of genetically modifying our cells;
- manufacturing our cells on a large scale and in a cost-effective manner;
- submitting applications for and obtaining regulatory approval, as the FDA and other regulatory authorities have limited experience with commercial development of immunotherapies for cancer and viral associated infectious diseases; and
- establishing sales and marketing capabilities, as well as developing a manufacturing process and distribution network to support the commercialization of any approved products.

We must be able to overcome these challenges in order for us to successfully develop, commercialize and manufacture our product candidates utilizing haNK, taNK, t-haNK and ceNK cells.

Even if we successfully develop and commercialize our haNK product candidate for Merkel cell carcinoma, we may not be successful in developing and commercializing our other product candidates, and our commercial opportunities may be limited.

We believe that our ability to realize the full value of our aNK platform will depend on our ability to successfully develop and commercialize haNK and our other product candidates in a wider range of indications. We are simultaneously pursuing preclinical and clinical development of a number of product candidates spanning several types of cancers. For example, we are devoting substantial resources toward the development of haNK and t-haNK product candidates as combination therapies with commercially approved monoclonal antibodies and late-stage product candidates for solid tumors such as breast, pancreatic, lung, head and neck and hematologic malignancies such as diffuse large B-cell lymphoma, or DLBCL, and serious viral diseases such as COVID-19.

Even if we are successful in continuing to build our pipeline of product candidates based on our technology platform, obtaining regulatory approvals and commercializing any approved product candidates will require substantial additional funding beyond our existing cash and cash equivalents and marketable debt securities, and are prone to numerous risks of failure. Investment in biopharmaceutical product development involves significant risks that any product candidate will fail to demonstrate adequate efficacy or an acceptable safety profile to the satisfaction of regulatory authorities, gain regulatory approval or become commercially viable. We cannot assure you that we will be able to successfully advance any product candidates through the development process. Our research programs may initially show promise in identifying product candidates, but ultimately fail to yield product candidates for clinical development or commercialization for many reasons, including the following:

- our product candidates may not succeed in preclinical or clinical testing due to failing to generate enough data to support the initiation or continuation of clinical trials or due to lack of patient enrollment in clinical trials;

- a product candidate may be shown to have harmful side effects or other characteristics in larger scale clinical studies that indicate it is unlikely to meet applicable regulatory criteria;
- competitors may develop alternatives that render our product candidates obsolete or less attractive;
- we may not be able or willing to assemble sufficient resources to acquire or discover additional product candidates from our technology platform;
- product candidates we develop may nevertheless be covered by third parties' patents or other exclusive rights;
- the market for a product candidate may change during our program so that the continued development of that product candidate is no longer reasonable;
- a product candidate may not be capable of being manufactured in commercial quantities at an acceptable cost, or at all; and
- a product candidate may not be accepted as safe and effective by patients, the medical community or third-party payors.

If any of these events occur, we may be forced to abandon our development efforts for a product candidate or the entire platform, or we may not be able to identify, discover, develop or commercialize additional product candidates, which would have a material adverse effect on our business and could potentially cause us to cease operations.

We may not be able to file INDs to commence additional clinical trials on the timelines we expect, and even if we are able to, the FDA may not permit us to proceed in a timely manner, or at all.

Prior to commencing clinical trials in the U.S. for any of our product candidates, we may be required to have an allowed IND for each product candidate. As of the date of this filing, we have numerous INDs for clinical trials that have been authorized in the U.S. We are required to file additional INDs prior to initiating our planned clinical trials. Submission of an IND may not result in the FDA allowing further clinical trials to begin and, once begun, issues may arise that will require us to suspend or terminate such clinical trials. Additionally, even if relevant regulatory authorities agree with the design and implementation of the clinical trials set forth in an IND or clinical trial application, these regulatory authorities may change their requirements in the future. The fact that we are pursuing novel technologies may also exacerbate these risks with respect to our product candidates, and as a result, we may not meet our anticipated clinical development timelines.

Our plans to support the Joint COVID-19 Collaboration by moving some of our current manufacturing facilities or repurposing personnel may cause delays in our oncology trials.

We have prepared one of our GMP manufacturing facilities previously used to manufacture product for our oncology trials to manufacture and produce a COVID-19 vaccine candidate and we are in the process of readying a new, well-equipped location to manufacture and produce clinical products for our oncology trials. We cannot assure you that we will be able to achieve GMP qualifications for this new manufacturing facility, or the extent of costs or delays in timing to do so.

Failure to achieve GMP status could adversely impact our ability to successfully develop our oncology product candidates. In addition, we have repurposed some of our manufacturing facility in Culver City, California, and personnel to support the Joint COVD-19 Collaboration Agreement. While we believe we have sufficient product in our inventory to not incur any disruptions in our current or planned oncology trials, we cannot be certain that we will not experience any unforeseen circumstances that may cause delays in our ability to manufacture sufficient product for our current or planned trials. If this occurs, such trials could be significantly delayed which would have an adverse effect on our business, financial condition, results of operations and prospects.

Our efforts regarding the Joint COVID-19 Collaboration may be difficult to integrate into our current operations and will require additional personnel who will require training which may cause some of our employees to reallocate their time from our current operations or manufacturing duties which could in turn cause delays in clinical supply of our products or trials.

After signing the binding term sheet regarding the Joint COVID-19 Collaboration in May 2020, we have made significant investments related to the development and manufacture of our COVID-19 product candidates. We have repurposed some of our personnel to support our QUILT-COVID-19-MSC program and have repurposed some of our personnel overseeing quality of our oncology products to support the Joint COVID-19 Collaboration. We also plan to hire additional staff to support the Joint COVID-19 Collaboration, which will increase our expenses. Although we do not believe the Joint COVID-19 collaboration will have a material impact on our current oncology trials in the near term, if our current personnel fail to remain focused on our oncology drug candidates, or new personnel that we plan to hire to support the Joint COVID-19 Collaboration require extensive training, our current oncology operations may be adversely impacted.

We face significant competition in the biopharmaceutical industry, and many of our competitors have substantially greater experience and resources than we have.

Even if our aNK platform products prove successful, we might not be able to remain competitive because of the rapid pace of technological development in the biopharmaceutical field. Our haNK, taNK, t-haNK and ceNK product candidates compete with other cell and molecule-based immunotherapy approaches using or targeting natural killer cells, NKT cells, T-cells, and dendritic cells.

Competitors focused on CAR-T related treatment approaches include AbbVie Inc., Atara Biotherapeutics, Inc., Precigen Corporation, Inc., Allogene Therapeutics, Inc., Bristol-Myers Squibb Company, Beijing Immunochina Pharmaceuticals Co., Ltd., Cellular Biomedicine Group, Inc., iCell Gene Therapeutics LLC, JW Therapeutics Co., Ltd., Amgen, Inc., Leucid Bio Ltd., Bellicum Pharmaceuticals, Inc., Medisix Therapeutics Pte Ltd., Bluebird Bio, Inc., Mesoblast Ltd., Calibr/Scripps Research, Mustang Bio, Inc., Carina Biotech, Inc., CARsgen Therapeutics, CRISPR Therapeutics, Inc., GEMoaB Monoclonals GmbH, Nanjing Legend Biotechnology Co., Ltd, Cartherics Pty Ltd, Novartis AG, Pfizer, Inc., Cellectis SA, Poseida Therapeutics, Inc., Prepromene Bio, Inc., Celularity, Inc., Servier Laboratories, Sorrento Therapeutics, Inc., Celyad SA, Takeda Pharmaceutical Company Limited, Fortress Biotech, Inc., TC BioPharm Ltd., Tessa Therapeutics Pte Ltd, Gilead Sciences, Inc., Tmunity Therapeutics, Inc., Transposagen Biopharmaceuticals, Inc., Humanigen, Inc., Immune Therapeutics, Inc., and Xyphos, Inc./Astellas.

Competitor companies focused on other T-cell based approaches include Adaptimmune Ltd., Adicet Bio, Inc., Autolus Therapeutics, plc, Cell Medica Limited, Eureka Therapeutics, Inc., Formula Pharmaceuticals, Inc., GlaxoSmithKline plc., Green Cross LabCell Corp., Immatics Biotechnologies GmbH, Immunocore Limited, Iovance Biotherapeutics, Inc., Kiadis Pharma Netherlands B.V., Lion TCR Pte Ltd., MolMed, S.p.A., Precision Biosciences, Inc., Janssen Pharmaceuticals, Inc., Noile-Immune Biotech, Inc., Anixa Biosciences, Inc., Beam Therapeutics Inc., BioNTech SE, Cartesian Therapeutics, Inc., Marker Therapeutics, Inc., Refuge Biotechnologies, Inc., Repertoire Immune Medicines, Inc., Sensei Biotherapeutics, Inc., Senti Biosciences, Inc., TCR² Therapeutics Inc., TScan Therapeutics, Inc., and Takara Bio, Inc.

Competitor companies focused on dendritic cell based approaches include Argos Therapeutics, Inc., Biovest International, Inc., ImmunoCellular Therapeutics, Ltd., Merck & Co, Inc./Immune Design, Inc., Inovio Pharmaceuticals, Inc., Precigen Corporation, Inc., Medigene AG, and Northwest Biotherapeutics, Inc.

Competitor companies focused on natural killer cell based approaches include Acepodia, Inc., Carabou Biosciences, Inc., Catamaran Bio Inc., Celularity, Inc., Century Therapeutics, Inc., Cytovia Therapeutics, Inc., Glycostem Therapeutics BV, Kiadis Pharma Netherlands B.V./CytoSen Therapeutics, Inc., Dragonfly Therapeutics, Inc., Editas Medicine, Inc., EMERcell, Exacis Biotherapeutics, Inc., Fate Therapeutics, Inc., Gamida Cell, Ltd., INmune Bio Inc., Nkarta Therapeutics, Inc., Onkimmune Ltd., Oncternal Therapeutics, Inc., NKMax America, Artiva Biotherapeutics/Merck, HebeCell Corp., Vycellix, Inc., oNKo-innate Pty Ltd., ONK Therapeutics Limited, Sanofi, S.A., Shoreline Biosciences, Inc., Takeda Pharmaceutical Company Limited, XNK Therapeutics AB, Zelluna Immunotherapy AS, and Ziopharm Oncology, Inc.

Competitor companies focused on large molecule immunotherapy approaches, including those overlapping the natural killer cell space, include Cytomx Therapeutics, Inc., Compass Therapeutics, Inc., Innate Pharma SA, Nektar Therapeutics, Inc., and Sorrento Therapeutics, Inc.

Other potential immunotherapy competitors include Affimed GmbH, AgenTus Therapeutics, Inc., Agios Pharmaceuticals, Inc., Codiak Biosciences, Glycostem Therapeutics BV, Kuur Therapeutics Limited, Triumvira Immunologics, Incysus Therapeutics, Inc., GammaDelta Therapeutics Ltd., Lyell Immunopharma, Inc., and GT Biopharma, Inc.

There are currently four approved T-cell based treatments that are marketed by Novartis AG, Gilead Sciences/Kite Pharma (two therapeutics), and the Bristol-Myers Squibb Company. There is currently one approved dendritic cell-based cancer vaccine marketed by Dendron Pharmaceuticals, LLC for the treatment of metastatic castration resistant prostate cancer.

Competitor companies focused on COVID-19 cell therapy currently include AstraZeneca plc, Athersys, Inc./Healios K.K., Capricor Therapeutics, Inc., CAR-T (Shanghai) Biotechnology, Cellavita Pesquisa Científica Ltda, Cellenkos, Inc., Cellular Biomedicine Group, Inc., Celularity, Inc., Sorrento Therapeutics, Inc., Chinese Academy of Sciences, Chongqing Sidemu Biotechnology Technology/ImmunCyte Life Sciences, Inc., Enlivex Therapeutics Ltd, Green Cross LabCell Corp., Hope Biosciences, Johnson & Johnson, Mesoblast Limited, Moderna, Inc., NovaVax, Inc., Orbsen Therapeutics Limited, Pfizer, Inc./BioNTech SE, Pluristem Therapeutics, Inc., Rigshospitalet, Tianhe Stem Cell Biotechnologies Inc., University of Minnesota/Fate Therapeutics, Inc., and Xinjiang Medical University.

In addition, a very large number of companies, government agencies and academic centers around the world are developing COVID-19 vaccines, and many of these entities are in more advanced stages of development than ImmunityBio, including some that have started Phase II and/or III clinical trials or already have emergency regulatory approval in some regions. Even if ImmunityBio's COVID-19 vaccine candidate is ultimately approved for marketing, the value of our profit-sharing opportunity would be adversely impacted if other COVID-19 vaccines are approved earlier or show better efficacy or safety than ImmunityBio's COVID-19 vaccine candidate.

Many of our current or potential competitors have greater financial and other resources, larger research and development staffs, and more experienced capabilities in researching, developing and testing products than we do. Many of these companies also have more experience in conducting clinical trials, obtaining FDA and other regulatory approvals, and manufacturing, marketing and distributing therapeutic products. Smaller or clinical-stage companies like us may successfully compete by establishing collaborative relationships with larger pharmaceutical companies or academic institutions. Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. These competitors also 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 commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient, or are less expensive than any products that we may develop. Furthermore, currently approved products could be discovered to have application for treatment of cancer and other diseases, which could give such products significant regulatory and market timing advantages over any of our product candidates. In addition, large pharmaceutical companies or other companies with greater resources or experience than us may choose to forgo therapy opportunities that would have otherwise been complementary to our product development and collaboration plans. Our competitors may succeed in developing, obtaining patent protection for, or commercializing their products more rapidly than us, which could result in our competitors establishing a strong market position before we are able to enter the market. A competing company developing or acquiring rights to a more effective therapeutic product for the same diseases targeted by us, or one that offers significantly lower costs of treatment could render our products noncompetitive or obsolete. We may not be successful in marketing against competitors any product candidates we may develop.

Our business plan involves the creation of a complex integrated ecosystem capable of addressing a wide range of indications. As a result, our future success depends on our ability to prioritize among many different opportunities.

We do not have sufficient resources to pursue development of all or even a substantial portion of the potential opportunities that we believe will be afforded to us by our planned integrated ecosystem. Because we have limited resources and access to capital to fund our operations, our management must make significant prioritization decisions as to which product candidates to pursue and how much of our resources to allocate to each. Our management has broad discretion to suspend, scale down, or discontinue any or all of these development efforts, or to initiate new programs to treat other diseases. If we select and commit resources to opportunities that we are unable to successfully develop, or we forego more promising opportunities, our business, financial condition and results of operations will be adversely affected.

We plan to develop our product candidates and potentially other programs in combination with other commercially available therapies or therapies we, or an affiliate of ours, have in development, which exposes us to additional risks. We do not know whether our attempts to use our product candidates in combination will be safe or effective.

We intend to develop cryopreserved PD-L1.t-haNK, haNK, and potentially other programs in combination with one or more currently approved cancer therapies or therapies in development. For Merkel cell carcinoma, we plan to evaluate haNK in combination with N-803 and avelumab. For pancreatic cancer, TNBC, and breast cancer indications, we plan to evaluate PD-L1.t-haNK in combination with N-803 and aldoxorubicin. For NSCLC indications, we plan to evaluate PD-L1.t-haNK in combination with N-803 and a checkpoint inhibitor.

Patients may not be able to tolerate any of our other product candidates in combination with any other therapies or dosing of our product candidates in combination with other therapies may have serious or unexpected adverse events. Furthermore, we will be required to show with substantial evidence that the combination of drugs when used together are more effective than each of the individual drugs used separately. We can provide no assurance that we can establish that any of our product candidates, when used in combination with other drugs, will be more effective than each individual drug when used alone.

We may also evaluate our product candidates in combination with one or more other cancer therapies that have not yet been approved for marketing by the FDA, the European Medicines Agency, or EMA, or comparable foreign regulatory authorities. We will not be able to market and sell any product candidate in combination with any such unapproved cancer therapies that do not ultimately obtain marketing approval.

If the FDA, EMA or other comparable foreign regulatory authorities do not approve or revoke their approval of these other therapies, or if safety, efficacy, purity, potency, commercial adoption, manufacturing or supply issues arise with the therapies we choose to evaluate in combination with any of our product candidates, we may be unable to obtain approval of or successfully market any one or all of the product candidates we develop.

Additionally, if the third-party providers of therapies or therapies in development used in combination with our product candidates are unable to produce sufficient quantities for clinical trials or for commercialization of our product candidates, or if the cost of combination therapies are prohibitive, our development and commercialization efforts would be impaired, which would have an adverse effect on our business, financial condition, results of operations and growth prospects. If clinical trial collaboration and supply agreement terminates or if we cannot negotiate favorable terms for combination therapies, our combination therapy development plans could be delayed or terminated, and the cost to us to conduct such trials may significantly increase.

Clinical development involves a lengthy and expensive process with an uncertain outcome, and results of earlier studies and trials may not be predictive of future clinical trial results. We may encounter substantial delays in clinical trials, or may not be able to conduct or complete clinical trials on the expected timelines, if at all. If our preclinical studies and clinical trials are not sufficient to support regulatory approval of any of our product candidates, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development of such product candidate.

It is impossible to predict when or if any of our product candidates and therapies will prove safe, effective, or potent in humans or will receive regulatory approval. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we must complete extensive preclinical studies and clinical trials to demonstrate the safety, efficacy or potency of our product candidates in humans. A failure of one or more clinical trials can occur at any stage of testing. The outcome of early clinical trials may not be predictive of the success of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval of their product candidates. Our pre-clinical studies and future clinical trials may not be successful.

We cannot be certain that our planned clinical trials will be sufficient to support regulatory approval of our product candidates. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Human clinical trials are expensive and difficult to design and implement, in part because they are subject to rigorous regulatory requirements. Failure or delay can occur at any time during the clinical trial process.

We may experience delays in obtaining the FDA's authorization to initiate clinical trials under future INDs, completing ongoing preclinical and clinical studies of our other future product candidates, and initiating our planned preclinical studies and clinical trials. Additionally, we cannot be certain that preclinical studies or clinical trials for our product candidates will begin on time, not require redesign, enroll an adequate number of research subjects or patients on time, or be completed on schedule, if at all. Clinical trials can be delayed or terminated for a variety of reasons, including delays or failures related to:

- the FDA or comparable foreign regulatory authorities disagreeing as to the design or implementation of our clinical trials;
- the FDA or comparable foreign regulatory authorities disagreeing with our tissue-agnostic anti-tumor development strategy;
- delays in obtaining regulatory approval to commence a clinical trial;
- reaching 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;
- obtaining institutional review board, or IRB, approval at each clinical trial site;
- recruiting an adequate number of suitable patients to participate in a clinical trial;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate;
- having subjects 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;
- addressing subject safety concerns that arise during the course of a clinical trial;
- adding a sufficient number of clinical trial sites; or
- obtaining sufficient product supply of product candidates for use in preclinical studies or clinical trials from third-party suppliers.

We may experience numerous adverse or unforeseen events during, or as a result of, preclinical studies and clinical trials that could delay or prevent our ability to receive marketing approval or commercialize our product candidates, including:

- we may receive feedback from regulatory authorities that requires us to modify the design of our clinical trials, including additional procedures and contingency measures in response to the COVID-19 pandemic or as required by clinical sites, IRB, or FDA;
- clinical trials of our product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon our research efforts for our other future product candidates;
- clinical trials of our product candidates may not produce differentiated or clinically significant results across tumor types or indications;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate or participants may drop out of our clinical trials at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements, fail to maintain adequate quality controls or be unable to provide us with sufficient product supply to conduct and complete preclinical studies or clinical trials of our product candidates in a timely manner, or at all;

We or our investigators might have to suspend or terminate clinical trials of our product candidates for various reasons, including:

- non-compliance with regulatory requirements, a finding that our product candidates have undesirable side effects or other unexpected characteristics or a finding that the participants are being exposed to unacceptable health risks;
- the cost of clinical trials of our product candidates may be greater than we anticipate, for example, if we experience delays or challenges in identifying patients with the mutations required for our clinical trials, we may have to reimburse sites for genetic sequencing costs in order to encourage sequencing of additional patients;
- the quality of our product candidates or other materials necessary to conduct preclinical studies or clinical trials of our product candidates may be insufficient or inadequate, and any transfer of manufacturing activities may require unforeseen manufacturing or formulation changes;
- regulators may revise the requirements for approving our product candidates, or such requirements may not be as we anticipate; and
- future collaborators may conduct clinical trials in ways they view as advantageous to them but that are suboptimal for us.

We have commenced studies that may provide the basis for regulatory approval, but we have not sought or obtained FDA input on the trial design, number of patients that will be enrolled in the studies, or statistical analysis plan. FDA may not accept the data generated from these studies and my reject any regulatory applications we submit with this data. If we are required to conduct additional clinical trials or other testing of our product candidates beyond those that we currently contemplate, if we are unable to successfully complete clinical trials of our product candidates or other testing, if the results of these trials or tests are not positive or are only moderately positive or if there are safety concerns, our business and results of operations may be adversely affected and we may incur significant additional costs. We could also encounter delays if a clinical trial is suspended or terminated by us, by the IRBs of the institutions in which such clinical trials are being conducted, by the Data Safety Monitoring Board, if any, for such clinical trial or by the FDA or other regulatory authorities. Such authorities may suspend or terminate a clinical trial due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical trial protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from the product candidates, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial.

If we experience delays in the completion, or termination, of any preclinical study or clinical trial of our product candidates, the commercial prospects of our product candidates may be harmed, and our ability to generate revenues from any of these product candidates will be delayed or not realized at all. In addition, any delays in completing our preclinical studies or clinical trials may increase our costs, slow down our product candidate development and approval process and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may significantly harm our business, financial condition and prospects. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates. If one or more of our product candidates generally prove to be ineffective, unsafe or commercially unviable, our entire pipeline and platform would have little, if any, value, which would have a material and adverse effect on our business, financial condition, results of operations and prospects.

Clinical drug development involves a lengthy and expensive process with an uncertain outcome, results of earlier studies and clinical trials may not be predictive of future clinical trial results, we may not be able to rely on the aNK and haNK phase I and II clinical trials data for our other product candidates, and our clinical trials may fail to adequately demonstrate substantial evidence of safety and efficacy of our product candidates. The results of our clinical trials may not satisfy the requirements of the FDA or other comparable foreign regulatory authorities, and we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of such product candidate.

Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. A failure of one or more of our clinical trials can occur at any time during the clinical trial process. The results of preclinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials. There is a high failure rate for product candidates proceeding through clinical trials, and product candidates in later stages of clinical trials may fail to show the required safety and efficacy despite having progressed through preclinical studies and initial clinical trials. A number of companies in the pharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier clinical trials, and we cannot be certain that we will not face similar setbacks. Even if our clinical trials are completed, the results may not be sufficient to support obtaining regulatory approval for our product candidates. In addition, our strategy and anticipated timelines are predicated upon our ability to utilize the phase I and II clinical trial data for aNK, haNK, and t-haNK observed to date to support our planned clinical trials for all of our product candidates, including our haNK and t-haNK product candidates. To date, we have several INDs for our haNK and t-haNK product candidates, and we cannot offer assurances that the FDA will allow us to utilize the phase I and II aNK and haNK data to support other planned clinical trials or allow our anticipated INDs for (i) planned phase I or phase Ib/IIa clinical trials for our other product candidates, (ii) planned phase IIb/III clinical trials for our haNK and t-haNK product candidates as potential combination therapies, or (iii) any other planned clinical trials, including registration studies.

We have in the past experienced delays in our ongoing clinical trials and we may experience additional delays in the future. We do not know whether future clinical trials, if any, will begin on time, need to be redesigned, enroll an adequate number of patients on time or be completed on schedule, if at all. Clinical trials can be delayed, suspended or terminated by us, regulatory authorities, clinical trial investigators, and ethics committees for a variety of reasons, including failure to:

- generate sufficient preclinical, toxicology, or other *in vivo* or *in vitro* data to support the initiation or continuation of clinical trials;
- obtain regulatory authorization, or feedback on clinical trial design, to commence a clinical trial;
- identify, recruit and train suitable clinical investigators;
- reach agreement on acceptable terms with prospective Contract Research Organizations, or CROs, and clinical trial sites;
- obtain and maintain IRB approval at each clinical trial site;
- identify, recruit and enroll suitable patients to participate in a clinical trial;
- have a sufficient number of patients complete a clinical trial or return for post-treatment follow-up;
- ensure that our third-party contractors and clinical investigators comply with clinical trial protocols, comply with regulatory requirements, or meet their obligations to us in a timely manner;
- address any patient safety concerns that arise during the course of a clinical trial;
- address any conflicts with new or existing laws or regulations;
- add a sufficient number of clinical trial sites;
- timely manufacture sufficient quantities of product candidate for use in clinical trials; or
- raise sufficient capital to fund a clinical trial.

Patient enrollment is a significant factor in the timing of clinical trials and is affected by many factors, including the size and nature of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the clinical trial, the design of the clinical trial, competing clinical trials and clinicians' and patients' or caregivers' perceptions as to the potential advantages of the drug 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.

We could also encounter delays if a clinical trial is suspended or terminated by us, by the data safety monitoring board for such clinical trial or by the FDA or any other regulatory authority, or if the IRBs of the institutions in which such clinical trials are being conducted suspend or terminate the participation of their clinical investigators and sites subject to their review. Such authorities may suspend or terminate a clinical trial due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements, including Good Clinical Practices, or GCPs, 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, 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.

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 trials could be required before we submit our product candidates for approval. To the extent that the results of the 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 trials in support of potential approval of our product candidates. Even if regulatory approval is secured for any of our product candidates, the terms of such approval may limit the scope and use of our product candidate, which may also limit its commercial potential.

If we experience delays in the completion of, or termination of, any clinical trial of our product candidates for any reason, the commercial prospects of our product candidates may be harmed, and our ability to generate product revenues from any of these product candidates will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow down our product candidate development and approval process and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may significantly harm our business, financial condition and prospects. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates.

We use Immuno-Oncology Clinic, Inc., a related party, in some of our clinical trials which may expose us to significant regulatory risks. If our data for this site is not sufficiently robust or if there are any data integrity issues, we may be required to repeat such studies or required to contract with other clinical trial sites, and our clinical development plans will be significantly delayed, and we will incur additional costs.

Many of our Phase I and II clinical trials for our haNK, PD-L1.t-haNK and other t-haNK products have been conducted by Immuno-Oncology Clinic, Inc., which is a related party. Relying on a related party clinical site to develop data that is used as the basis to support regulatory approval can expose us to significant regulatory risks. For example, a study used to support regulatory approval that is conducted at a related party site can be rejected by the FDA if there are data integrity issues, or if there are significant good clinical practice violations at the site. If any data integrity, or regulatory non-compliance issues occur during the study, we may not be able to use the data for our regulatory approval. Furthermore, if the operations of the clinical site is disrupted or if the site experiences disruptions in its clinical supplies or resources, such as potential disruptions due to COVID-19, then we may be required to suspend or terminate the study at this site, and we may need to contract with other clinical sites for the study, which will delay our clinical development and regulatory approval for the product candidate. Failure of this site to comply with the regulations or to recruit a sufficient number of patients may require us to delay submission for regulatory approval or repeat clinical trials, which would delay the regulatory approval process. Moreover, our business may be implicated if the site violates federal or state fraud and abuse or false claims laws and regulations or healthcare privacy and security laws.

Results for any patient who receives compassionate use access to our product candidates should not be viewed as representative of how the product candidate will perform in a well-controlled clinical trial, and cannot be used to establish safety or efficacy for regulatory approval.

We often receive requests for compassionate use access to our investigational drugs by patients that do not meet the entry criteria for enrollment into our clinical studies. Generally, patients requesting compassionate use have no other treatment alternatives for life threatening conditions. We evaluate each compassionate use request on an individual basis, and in some cases grant access to our investigational products outside of our sponsored clinical studies, and where a physician certifies the patient they are treating is critically ill and does not meet the entry criteria for one of our open clinical trials. Individual patient results from compassionate use access may not be used to support submission of a regulatory application, nor support approval of a product candidate. Although one patient with pancreatic cancer who was provided compassionate use access to our product candidates has experienced a six month complete remission after being treated, such results should not be considered to be indicative of results from any on-going or future well-controlled clinical trial. Before we can seek regulatory approval for any of our product candidates, we must demonstrate in well-controlled clinical trials statistically significant evidence that the product candidate is both safe and effective for the indication we are seeking approval. The results of our compassionate use program may not be used to establish safety or efficacy or regulatory approval.

We may be unable to obtain regulatory approval for our product candidates. The denial or delay of any such approval would delay commercialization and have a material adverse effect on our potential to generate revenue, our business and our results of operations.

The research, development, testing, manufacturing, labeling, packaging, approval, promotion, advertising, storage, recordkeeping, marketing, distribution, post-approval monitoring and reporting, and export and import of biopharmaceutical products are subject to extensive regulation by the FDA, and by foreign regulatory authorities in other countries. These regulations differ from country to country. To gain approval to market our product candidates, we must provide regulatory authorities with substantial evidence of safety, purity and potency of the product for each indication we seek to commercialize. We have not yet obtained regulatory approval to market any of our product candidates in the U.S. or any other country. Our business depends upon obtaining these regulatory approvals.

The FDA can delay, limit or deny approval of our product candidates for many reasons, including:

- our inability to satisfactorily demonstrate with substantial clinical evidence that the product candidates are safe, pure and potent for the requested indication;
- the FDA's disagreement with our clinical trial protocol or the interpretation of data from preclinical studies or clinical trials;
- the population studied in the clinical trial not being sufficiently broad or representative to assess safety in the full population for which we seek approval;
- our inability to demonstrate that clinical or other benefits of our product candidates outweigh any safety or other perceived risks;
- the FDA's determination that additional preclinical or clinical trials are required;
- the FDA's non-approval of the labeling or the specifications of our product candidates;
- the FDA's failure to accept the manufacturing processes or facilities of third-party manufacturers with which we may contract;
- for clinical trials conducted by the Immuno-Oncology Clinic, Inc., or the Clinic, a related party, the FDA or other regulatory authorities could view our study results as potentially biased even if we achieve such clinical trial endpoints; or
- the potential for approval policies or regulations of the FDA to significantly change in a manner rendering our clinical data insufficient for approval.

Even if we eventually successfully complete clinical testing and receive approval of any regulatory filing for our product candidates, the FDA may only grant approval contingent on the performance of costly additional post-approval clinical trials. The FDA may also approve our product candidates for a more limited indication or a narrower patient population than we originally requested, and the FDA may not approve the labeling that we believe is necessary or desirable for the successful commercialization of our product candidates. To the extent we seek regulatory approval in foreign countries, we may face challenges similar to those described above with regulatory authorities in applicable jurisdictions. Any delay in obtaining, or our inability to obtain, applicable regulatory approval for any of our product candidates would delay or prevent commercialization of our product candidates and would materially adversely impact our business, results of operations, financial condition and prospects.

Use of our product candidates could be associated with side effects or adverse events.

As with most biopharmaceutical products, use of our product candidates could be associated with side effects or adverse events, which can vary in severity and frequency. Side effects or adverse events associated with the use of our product candidates may be observed at any time, including in clinical trials or once a product is commercialized, and any such side effects or adverse events may negatively affect our ability to obtain regulatory approval or market our product candidates. Side effects such as toxicity or other safety issues associated with the use of our product candidates could require us to perform additional studies or halt development or sale of these product candidates or expose us to product liability lawsuits, which will harm our business. We may be required by regulatory agencies to conduct additional preclinical or clinical trials regarding the safety and efficacy of our product candidates, which we have not planned or anticipated. We cannot provide any assurance that we will resolve any issues related to any product-related adverse events to the satisfaction of the FDA or any regulatory agency in a timely manner or ever, which could harm our business, prospects and financial condition.

If we are successful in commercializing our product candidates, the FDA and other foreign regulatory agency regulations will require that we report certain information about adverse medical events if those products may have caused or contributed to those adverse events. The timing of our obligation to report would be triggered by the date we become aware of the adverse event, as well as the nature of the event. We may inadvertently fail to report adverse events we become aware of within the prescribed timeframe. We may also fail to appreciate that we have become aware of a reportable adverse event, especially if it is not reported to us as an adverse event or if it is an adverse event that is unexpected or removed in time from the use of our products. If we fail to comply with our reporting obligations, the FDA or other foreign regulatory agencies could take action including criminal prosecution, the imposition of civil monetary penalties, seizure of our products, or delay in approval or clearance of future products.

The clinical and commercial utility of our aNK, haNK, t-haNK, ceNK and MSC platforms are uncertain and may never be realized.

Our NK platforms are in the early stages of development. The company currently has multiple ongoing clinical trials to evaluate cryopreserved haNK and t-haNK cells in company sponsored clinical trials. Success in early clinical trials does not ensure that large-scale clinical trials will be successful nor does it predict final results. In addition, we will not be able to treat patients if we cannot manufacture a sufficient quantity of NK cells that meet our minimum specifications. In addition, our haNK product candidate has only been tested in a small number of patients. Results from these clinical trials may not necessarily be indicative of the safety and tolerability or efficacy of our products as we expand into larger clinical trials.

We may not ultimately be able to provide the FDA with substantial clinical evidence to support a claim of safety, purity and potency sufficient to enable the FDA to approve aNK platform product candidates for any indication. This may be because later clinical trials fail to reproduce favorable data obtained in earlier clinical trials, because the FDA disagrees with how we interpret the data from these clinical trials, or because the FDA does not accept these therapeutic effects as valid endpoints in pivotal clinical trials necessary for market approval. We will also need to demonstrate that aNK platform product candidates are safe. We do not have data on possible harmful long-term effects of aNK platform product candidates and do not expect to have this data in the near future. As a result, our ability to generate clinical safety and effectiveness data sufficient to support submission of a marketing application or commercialization of our aNK platform therapy is uncertain and is subject to significant risk.

We have limited experience as a company conducting clinical trials and have relied and will rely on third parties and related parties to conduct many of our preclinical studies and clinical trials. Any failure by a third party, related party, or by us to conduct the clinical trials according to Good Clinical Practices and in a timely manner may delay or prevent our ability to seek or obtain regulatory approval for or commercialize our product candidates.

To date, the only company sponsored studies to engage in patient enrollment have been for the following cancer indications: Merkel cell, pancreatic, triple negative breast, squamous head and neck, non-small cell lung, triple negative breast, colorectal, B-cell lymphoma, and advanced solid tumors, as well as COVID-19 infection. Our relative lack of experience conducting clinical trials may contribute to our planned clinical trials not beginning or completing on time, if at all. In addition, we have entered into an agreement with the Clinic, a related party, to continue to conduct and oversee certain of our clinical trials. Large-scale clinical trials will require significant additional resources and reliance on Contract Research Organizations, or CROs, clinical investigators, or consultants. Consequently, our reliance on outside parties may introduce delays beyond our control. Our CROs, the Clinic, and other third parties must communicate and coordinate with one another in order for our trials to be successful. Additionally, our CROs, the Clinic, and other third parties may also have relationships with other commercial entities, some of which may compete with us. If our CROs, the Clinic, or other third parties conducting our clinical trials do not perform their contractual duties or regulatory obligations, experience work stoppages, do not meet expected deadlines, terminate their agreements with us or need to be replaced, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical trial protocols, GCPs, or other regulatory requirements or for any other reason, we may need to conduct additional clinical trials or enter into new arrangements with alternative CROs, clinical investigators or other third parties. We may be unable to enter into arrangements with alternative CROs on commercially reasonable terms, or at all.

We, the Clinic, and the third parties upon which we rely are required to comply with GCPs. GCPs are regulations and guidelines enforced by regulatory authorities around the world, through periodic inspections, for products in clinical development. If we or these third parties fail to comply with applicable GCP regulations, the clinical data generated in our clinical trials may be deemed unreliable and have to be repeated, and our submission of marketing applications may be delayed or the regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We are subject to the risk that, upon inspection, a regulatory authority will determine that any of our clinical trials fail to comply or failed to comply with applicable GCP regulations. In addition, our clinical trials must be conducted with material produced under GMP and Good Tissue Practice, or GTP, regulations, which are enforced by regulatory authorities. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process. Moreover, our business may be significantly impacted if our CROs, the Clinic, clinical investigators or other third parties violate federal or state healthcare fraud and abuse or false claims laws and regulations or healthcare privacy and security laws.

We also anticipate that part of our strategy for pursuing the wide range of indications potentially addressed by our aNK, haNK, taNK, t-haNK, ceNK and MSC platforms will involve further investigator-initiated clinical trials. While these trials generally provide us with valuable clinical data that can inform our future development strategy in a cost-efficient manner, we generally have less control over not only the conduct but also the design of these clinical trials. Third-party investigators may design clinical trials involving our product candidates with clinical endpoints that are more difficult to achieve or in other ways that increase the risk of negative clinical trial results compared to clinical trials we may design on our own. Negative results in investigator-initiated clinical trials, regardless of how the clinical trial was designed or conducted, could have a material adverse effect on our prospects and the perception of our product candidates.

Moreover, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. In addition, some of our trials are being run by the Clinic, which is controlled by one of our employees. Under certain circumstances, the company may be required to report some of these relationships to the FDA. The FDA may conclude that a financial relationship between the company, the Clinic and/or a principal investigator has created a conflict of interest or otherwise affected interpretation of the study. The FDA may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA and may ultimately lead to the denial of regulatory approval of one or more of our product candidates.

We and ImmunityBio may not be successful in jointly developing and obtaining regulatory approval for any collaborative COVID-19 product candidates.

The risks described in this section regarding the development and regulatory approval of our product candidates in oncology are also applicable to the product candidates that we and ImmunityBio intend to jointly develop under the Joint COVID-19 Collaboration, including ImmunityBio's COVID-19 vaccine candidate. In particular, while the second generation adenovirus used in ImmunityBio's COVID-19 vaccine candidate is being tested in Phase I trials for SARS-CoV-2 and has been generally well-tolerated in those studies to date, the COVID-19 vaccine candidate uses a different construct directed towards the SARS-CoV-2 virus. This vaccine candidate has not previously been tested in humans and very limited preclinical data has been generated to date. In addition, the biology of the SARS-CoV-2 virus and pathology of COVID-19 disease are not fully understood and new information is constantly emerging. Thus, there remains substantial uncertainty about how ImmunityBio's COVID-19 vaccine candidate will perform in clinical trials, the timelines to complete development of the vaccine candidate and whether the FDA or other regulatory agencies will approve the vaccine candidate for registrational studies or subsequent marketing. If we and ImmunityBio are unable to successfully develop, obtain regulatory approval for, manufacture at scale and commercialize product candidates for COVID-19, or if the Joint COVID-19 Collaboration is terminated, we may not be able to realize any share of net sales of resulting products or recoup the substantial investments we expect to make in our joint development efforts.

We are heavily dependent on our senior management, particularly Mr. Richard Adcock, Dr. Patrick Soon-Shiong and Dr. Barry Simon, and a loss of a member of our senior management team in the future, even if only temporary, could harm our business.

If we lose members of our senior management for a short or an extended time, we may not be able to find appropriate replacements on a timely basis, and our business could be adversely affected. Our existing operations and continued future development depend to a significant extent upon the performance and active participation of certain key individuals, including Mr. Adcock, our CEO, Dr. Soon-Shiong, our Executive Chairman and our principal stockholder, and Dr. Simon, our President and Chief Administrative Officer. The risks related to our dependence upon Dr. Soon-Shiong are particularly acute given his ownership percentage, the commercial and other relationships that we have with entities affiliated with him, his role in our company and reputation. We may also be dependent on additional funding from Dr. Soon-Shiong and his affiliates, which may not be available when needed. If we were to lose Mr. Adcock, Dr. Soon-Shiong or Dr. Simon for a short or an extended time, for any reason, including the contraction of COVID-19, we may not be able to find appropriate replacements on a timely basis and our financial condition and results of operations could be materially adversely affected.

Competition for qualified personnel in the biotechnology and pharmaceuticals industry is intense due to the limited number of individuals who possess the skills and experience required. To induce valuable employees to remain at our company, in addition to salary and cash incentives, we have provided stock options and restricted stock units that vest over time. The value to employees of stock options and restricted stock units that vest over time may be significantly affected by movements in our stock price that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies. Despite our efforts to retain valuable employees, members of our management, scientific and development teams may terminate their employment with us on short notice. We face significant competition for employees, particularly scientific personnel, from other biopharmaceutical companies, which include both publicly traded and privately held companies, and we may not be able to hire new employees quickly enough to meet our needs. Although we have employment agreements with our key employees, these employment agreements provide for at-will employment, which means that any of our employees could leave our employment at any time, with or without notice. Except with respect to Dr. Simon, we do not maintain "key man" insurance policies on the lives of these individuals or the lives of any of our other employees. We may not be able to attract and retain quality personnel on acceptable terms, or at all, which may cause our business and operating results to suffer.

Dr. Patrick Soon-Shiong, our Executive Chairman and principal stockholder, has significant interests in other companies which may conflict with our interests.

Our Executive Chairman and principal stockholder, Dr. Patrick Soon-Shiong, is the founder of NantWorks. The various NantWorks companies are currently exploring opportunities in the immunotherapy, infectious disease and inflammatory disease fields. In particular, we have agreements with a number of related parties that provide services, technology and equipment for use in our efforts to develop our product pipeline. Dr. Soon-Shiong holds a controlling interest, either directly or indirectly, in these entities. Consequently, Dr. Soon-Shiong's interests may not be aligned with our other stockholders and he may from time to time be incentivized to take certain actions that benefit his other interests and that our other stockholders do not view as being in their interest as investors in our company. In addition, other companies affiliated with Dr. Soon-Shiong may compete with us for business opportunities or, in the future, develop products that are competitive with ours (including products in other therapeutic fields which we may target in the future). Moreover, even if they do not directly relate to us, actions taken by Dr. Soon-Shiong and the companies with which he is involved could impact us.

We may also pursue supply arrangements for various investigational agents controlled by affiliates to be used in our clinical trials. If Dr. Soon-Shiong was to cease his affiliation with us, ImmunityBio, or with NantWorks, these entities may be unwilling to continue these relationships with us on commercially reasonable terms, or at all, and as a result may impede our ability to control the supply chain for our combination therapies. These supply and collaboration agreements do not typically specify how sales will be apportioned between the parties upon successful commercialization of the product. As a result, we cannot guarantee that we will receive a percentage of the revenue that is at least proportional to the costs that we will incur in commercializing the product candidate.

Furthermore, in November 2015, we entered into a Shared Services Agreement with NantWorks, pursuant to which NantWorks and/or any of its affiliates provides corporate, general and administrative, manufacturing strategy, research and development, regulatory and clinical trial strategy, and other support services to us and our subsidiaries. If Dr. Soon-Shiong was to cease his affiliation with us or with NantWorks, we may be unable to establish or maintain this relationship with NantWorks on a commercially reasonable basis, if at all. As a result, we could experience a lack of business continuity due to loss of historical and institutional knowledge and a lack of familiarity of new employees and/or new service providers with business processes, operating requirements, policies and procedures, and we may incur additional costs as new employees and/or service providers gain necessary experience, particularly in connection with issues or concerns we may have as a public company. In addition, the loss of the services of NantWorks might significantly delay or prevent the development of our products or achievement of other business objectives by diverting management's attention to transition matters and identification of suitable replacements, if any, and could have a material adverse effect on our business and results of operations.

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

To effect our business plan, we will need to add other management, administrative, regulatory, manufacturing and scientific staff. As of December 31, 2020, we had 171 employees. We will need to attract, retain and motivate a significant number of new additional managerial, operational, sales, marketing, financial, and other personnel, as well as highly skilled scientific and medical personnel, and to expand our capabilities to successfully pursue our research, development, manufacturing and commercialization efforts and secure collaborations to market and distribute our products. This growth may strain our existing managerial, operational, financial and other resources. We also intend to add personnel in our research and development and manufacturing departments as we expand our clinical trial and research capabilities. Moreover, we may need to hire additional accounting and other personnel and augment our infrastructure as a result of operating as a public company. Any inability to attract and retain qualified employees to enable our planned growth and establish additional capabilities or our failure to manage our growth effectively could delay or curtail our product development and commercialization efforts and harm our business.

We have limited manufacturing experience and may not be able to manufacture our haNK, taNK, t-haNK or ceNK cells on a large scale or in a cost-effective manner.

haNK, taNK, t-haNK and ceNK cells have been grown in various quantities in closed cell culture systems and intermediate to larger-scale bioreactors. With all manufacturing efforts being conducted in-house, we will need to develop the ability to grow haNK, taNK, t-haNK and ceNK cells on a large-scale basis in a cost efficient manner. While we have made great strides with our haNK and t-haNK production, including a validated cryopreserved form of the product, we have not demonstrated the ability to manufacture these cells beyond quantities sufficient for our clinical programs. We have not demonstrated the ability to manufacture our taNK, t-haNK and ceNK cells beyond quantities sufficient for research and development and limited clinical activities. We have also experienced increases in manufacturing costs and sporadic decreases in manufacturing yield of haNK, taNK, t-haNK and ceNK cells. In addition, we have no experience manufacturing our NK cells specifically at the capacity that will be necessary to support commercial sales. The novel nature of our technology also increases the complexity and risk in the manufacturing process. In addition, we may encounter difficulties in obtaining the approvals for, and designing, constructing, validating and operating, any new

manufacturing facility. We may also be unable to hire the qualified personnel that we will require to accommodate the expansion of our operations and manufacturing capabilities. If we relocate our manufacturing activities to a new facility during or after a pivotal clinical trial, we may be unable to obtain regulatory approval unless and until we demonstrate to the FDA's satisfaction the similarity of our haNK, taNK, t-haNK and ceNK cells manufactured in the new facility to our cells manufactured in prior facilities. If we cannot adequately demonstrate similarity to the FDA, we could be required to repeat clinical trials, which would be expensive, and would substantially delay regulatory approval.

Because our product candidates are cell-based, their manufacture is complicated. In addition, we rely on certain third party suppliers for manufacturing supplies such as X-VIVO 10 media to grow and produce our cells. Reliance on such third-party suppliers exposes us to supply interruptions and shortages that could have an adverse effect on our ability to produce product. Moreover, our present production process may not meet our initial expectations as to reproducibility, yield, purity or other measurements of performance. Any supply interruption from third parties and entities that are affiliated with Dr. Soon-Shiong and/or NantWorks could materially harm our ability to manufacture our product candidates until a new source of supply, if any, could be identified and qualified. We may be unable to find a sufficient alternative supply channel in a reasonable time or on commercially reasonable terms. In addition, we may have to customize a bioreactor system to our manufacturing process. Because our manufacturing process is unproven, we may never successfully commercialize our products. In addition, because the clinical trials were conducted using a system that will not be sufficient for commercial quantities, we may have to show comparability of the different versions of systems we have used. For these and other reasons, we may not be able to manufacture haNK, taNK, t-haNK, ceNK and MSC cells on a large scale or in a cost-effective manner.

aNK platform cells have been produced at academic institutions associated with our other clinical trial sites. In the past, the lack of production of aNK platform cells has caused delays in the commencement of our clinical trials. We have been establishing NK cell production capacity to meet anticipated demand for our planned clinical trials but may not be able to successfully build out our capacity to meet our current and anticipated future needs. Any damage to or destruction of our facility and equipment, prolonged power outage, contamination or shut down by the FDA or other regulatory authority could significantly impair or curtail our ability to produce haNK, taNK, t-haNK and ceNK cells.

We are dependent on third parties to store our aNK, haNK, taNK, t-haNK and ceNK cells, and any damage or loss to our master cell bank would cause delays in replacement, and our business could suffer.

The aNK cells of our master and working cell banks are stored in freezers at a third party biorepository and also stored in our freezers at one of our production facilities. If these cells are damaged at these facilities, including by the loss or malfunction of these freezers or back-up power systems, as well as by damage from fire, loss of power, or other natural disasters, we would need to establish replacement master and working cell banks, which would impact clinical supply and delay our patients' treatments. If we are unable to establish replacement cell banks, we could incur significant additional expenses and liability to patients whose treatment is delayed, and our business could suffer.

If we or any of our third party manufacturers that we may use do not maintain high standards of manufacturing, our ability to develop and commercialize haNK, taNK, t-haNK or ceNK cells could be delayed or curtailed.

We and any third parties that we may use in the future to manufacture our products must continuously adhere to cGMP regulations rigorously enforced by the FDA through its facilities inspection program. If our facilities or the facilities of third parties who we may use in the future to produce our products do not pass a pre-approval inspection, the FDA will not grant market approval for haNK, taNK, t-haNK or ceNK cells. In complying with cGMP, we and any third-party manufacturers must expend significant time, money and effort in production, record keeping and quality control to assure that each component of our haNK, taNK, t-haNK and ceNK cell therapies meets applicable specifications and other requirements. We or any of these third-party manufacturers may also be subject to comparable or more stringent regulations of foreign regulatory authorities. If we or any of our third-party manufacturers fail to comply with these requirements, we may be subject to regulatory action, which could delay or curtail our ability to develop, obtain regulatory approval of, and commercialize haNK, taNK, t-haNK or ceNK cells. If our component part manufacturers and suppliers fail to provide components of sufficient quality to meet our required specifications, our clinical trials or commercialization of haNK, taNK, t-haNK or ceNK cells could be delayed or halted, and we could face product liability claims.

If we or any of our third-party manufacturers that we may engage use hazardous and biological materials in a manner that causes injury or violates applicable law, we may be liable for damages.

Our research and development activities involve the controlled use of potentially hazardous substances, including chemical and biological materials, by us and any third-party manufacturers that we may use in the future. We and any of our third party manufacturers that we may engage are subject to federal, state and local laws and regulations in the U.S. governing the use, manufacture, storage, handling and disposal of medical and hazardous materials. Although we believe that our procedures for using, storing and disposing of these materials comply with legally prescribed standards, we cannot completely eliminate the risk of contamination or injury resulting from medical or hazardous materials. As a result of any such contamination or injury, we may incur liability or local, city, state or federal authorities may curtail the use of these materials and interrupt our business operations. In the event of an accident, we could be held liable for damages or penalized with fines, and the liability could exceed our resources. We do not have any insurance for liabilities arising from medical or hazardous materials. Compliance with applicable environmental laws and regulations is expensive, and current or future environmental regulations may impair our research, development and production efforts, which could harm our business, prospects, financial condition or results of operations.

We have not yet developed a validated methodology for freezing and thawing large quantities of taNK and t-haNK cells, which we believe will be required for the storage and distribution of our taNK and t-haNK product candidates.

We have not demonstrated that taNK and t-haNK cells can be frozen and thawed in large quantities without damage, in a cost-efficient manner and without degradation over time. We may encounter difficulties not only in developing freezing and thawing methodologies, but also in obtaining the necessary regulatory approvals for using such methodologies in treatment. If we cannot adequately demonstrate similarity of our frozen product to the unfrozen form to the satisfaction of the FDA, we could face substantial delays in our regulatory approvals. If we are unable to freeze taNK and t-haNK cells for shipping purposes, our ability to promote adoption and standardization of our products, as well as achieve economies of scale by centralizing our production facility, will be limited. Even if we are able to successfully freeze and thaw taNK and t-haNK cells in large quantities, we will still need to develop a cost-effective and reliable distribution and logistics network, which we may be unable to accomplish. For these and other reasons, we may not be able to commercialize haNK, taNK or t-haNK cells on a large scale or in a cost-effective manner.

We rely on third party healthcare professionals to administer haNK, taNK, t-haNK or ceNK cells to patients, and our business could be harmed if these third parties administer these cells incorrectly.

We rely on the expertise of physicians, nurses and other associated medical personnel to administer haNK, t-haNK, MSC or ceNK cells to clinical trial patients. If these medical personnel are not properly trained to administer, or do not properly administer, haNK, taNK, t-haNK, MSC or ceNK cells, the therapeutic effect of haNK, taNK, t-haNK, MSC or ceNK cells may be diminished or the patient may suffer injury.

In addition, if we achieve the ability to freeze and thaw our haNK, t-haNK, MSC and ceNK cells, third party medical personnel will have to be trained on proper methodology for thawing haNK, t-haNK, MSC and ceNK cells received from us. If this thawing is not performed correctly, the cells may become damaged and/or the patient may suffer injury. While we intend to provide training materials and other resources to these third-party medical personnel, the thawing of haNK, t-haNK, MSC or ceNK cells will occur outside our supervision and may not be administered properly. If, due to a third-party error, people believe that haNK, t-haNK, MSC or ceNK cells are ineffective or harmful, the desire to use haNK, t-haNK, MSC or ceNK cells may decline, which would negatively impact our business, reputation and prospects. We may also face significant liability even though we may not be responsible for the actions of these third parties.

Even if any of our product candidates receive regulatory approvals, they may fail to achieve the broad degree of market acceptance and use necessary for commercial success.

Any potential future commercial success of any of our product candidates will depend, among other things, on its acceptance by physicians, patients, healthcare payors, and other members of the medical community as a therapeutic and cost-effective alternative to commercially available products. Because only a few cell-based therapy products have been commercialized, we do not know to what extent cell-based immunotherapy products will be accepted as therapeutic alternatives. If we fail to gain market acceptance, we may not be able to earn sufficient revenues to continue our business. Market acceptance of, and demand for, any product that we may develop, if approved for commercial sale, will depend on many factors, including:

- our ability to provide substantial evidence of safety and efficacy;
- convenience and ease of administration;
- prevalence and severity of adverse side effects associated with our product candidates;
- availability of alternative and competing treatments;

- the cost effectiveness of any approved product and competing treatments;
- the ability to offer appropriate patient access programs, such as co-pay assistance;
- the extent to which physicians recommend our products to their patients;
- effectiveness of our marketing and distribution strategy and pricing of any product that we may develop;
- publicity concerning our products or competitive products; and
- our ability to obtain sufficient third-party coverage and adequate reimbursement.

If haNK, taNK, t-haNK and ceNK cells are approved for use, but fail to achieve the broad degree of market acceptance necessary for commercial success, our operating results and financial condition will be adversely affected. In addition, even if haNK, taNK, t-haNK and ceNK cells gain acceptance, the markets for treatment of patients with our target indications may not be as significant as we estimate.

Even if we are able to commercialize any product candidates, such products may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives, which would harm our business.

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

Our ability to successfully commercialize any products that we may develop also will depend in part on the extent to which reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Reimbursement may impact the demand for, or the price of, any product candidate for which we obtain marketing approval. Government authorities also impose mandatory discounts for certain patient groups and may seek to increase such discounts at any time. Future regulation may negatively impact the price of our products, if approved. It may be difficult to promptly obtain coverage and profitable payment rates from both the government-funded and private payors for any of our approved product candidates, and this may have a material adverse effect on our operating results, our ability to raise capital and our overall financial condition.

There are risks inherent in our business that may subject us to potential product liability suits and other claims, which may require us to engage in expensive and time-consuming litigation or pay substantial damages and may harm our reputation and reduce the demand for our product.

Our business exposes us to product liability risks, which are inherent in the testing, manufacturing, marketing and sale of biopharmaceutical products. We will face an even greater risk of product liability if we commercialize haNK, taNK, t-haNK and ceNK cells. For example, we may be sued if any product we develop allegedly causes or is perceived to cause injury or is found to be otherwise unsuitable during product testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability and a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our products. Even a successful defense would require significant financial and management resources.

Certain aspects of how haNK, taNK, t-haNK and ceNK cells are processed and administered may increase our exposure to liability. Medical personnel administer haNK, taNK, t-haNK and ceNK cells to patients intravenously in an outpatient procedure. This procedure poses risks to the patient similar to those occurring with infusions of other cell products, such as T-cells and stem cells, including blood clots, infection and mild to severe allergic reactions. Additionally, haNK, taNK, t-haNK and ceNK cells or components of our haNK, taNK, t-haNK and ceNK cell therapy may cause unforeseen harmful side effects. For example, a patient receiving haNK, taNK, t-haNK and ceNK cells could have a severe allergic reaction or could develop an autoimmune condition to materials infused with the haNK, taNK, t-haNK and ceNK cells.

In addition, we have not conducted studies on the long-term effects associated with the media that we use to grow our haNK, taNK, t-haNK and ceNK cells. Similarly, we expect to use media in freezing our haNK, taNK, t-haNK and ceNK cells for shipment. These media could contain substances that have proved harmful if used in certain quantities. As we continue to develop our haNK, taNK, t-haNK and ceNK cell therapy, we may encounter harmful side effects that we did not previously observe in our prior studies and clinical trials. Additionally, the discovery of unforeseen side effects of haNK, taNK, t-haNK and ceNK cells could also lead to lawsuits against us.

Regardless of merit or eventual outcome, product liability or other claims may, among other things, result in:

- decreased demand for any approved products;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants or cancellation of clinical trials;
- costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to clinical trial participants or patients;
- regulatory investigations, product recalls, withdrawals or labeling, marketing or promotional restrictions;
- exhaustion of any available insurance and our capital resources;
- loss of revenue;
- a potential decrease in our share price; and
- the inability to commercialize any products we develop.

Our inability to obtain and maintain sufficient product liability insurance at an acceptable cost and scope of coverage to protect against potential product liability claims could prevent or inhibit the commercialization of our products. We obtained product liability insurance covering our clinical trials with policy limits that we believe are customary for similarly situated companies and adequate to provide us with coverage for foreseeable risks. Although we maintain such insurance, any claim that may be brought against us could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by our insurance or that is in excess of the limits of our insurance coverage. If we determine that it is prudent to increase our product liability coverage due to the commercial launch of any approved product, we may be unable to obtain such increased coverage on acceptable terms, or at all. Our insurance policies also have various exclusions and deductibles, and we may be subject to a product liability claim for which we have no coverage. We will have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts. Moreover, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses. If and when we obtain approval for marketing our product candidates, we intend to expand our insurance coverage to include the sale of the applicable products; however, we may be unable to obtain this liability insurance on commercially reasonable terms. If a successful product liability or other claim or series of claims is brought against us for uninsured liabilities or in excess of insured liabilities, our assets may not be sufficient to cover these claims and our business operations could suffer.

We currently have no marketing and sales organization and have no experience in marketing products. If we are unable to establish marketing and sales capabilities or enter into agreements with third parties to market and sell our product candidates, we may not be able to generate product revenue.

We currently have no sales, marketing or distribution capabilities and have no experience as a company in marketing products. If we develop an internal sales, marketing and distribution organization, this would require significant capital expenditures, management resources and time, and we would have to compete with other pharmaceutical and biotechnology companies to recruit, hire, train and retain marketing and sales personnel.

If we are unable or decide not to establish internal sales, marketing and distribution capabilities, we expect to pursue collaborative arrangements regarding the sales, marketing and distribution of our products. However, we may not be able to establish or maintain such collaborative arrangements, or if we are able to do so, their sales forces may not be successful in marketing our products. Any revenue we receive would depend upon the efforts of such third parties, which may not be successful. We may have little or no control over the sales, marketing and distribution efforts of such third parties and our revenue from product sales may be lower than if we had commercialized our product candidates ourselves. We also face competition in our search for third parties to assist us with the sales, marketing and distribution efforts of our product candidates. There can be no assurance that we will be able to develop internal sales, marketing and distribution capabilities or establish or maintain relationships with third-party collaborators to commercialize any product in the U.S. or overseas.

A variety of risks associated with marketing our product candidates internationally could materially adversely affect our business.

We plan to seek regulatory approval of our product candidates outside of the U.S. and, accordingly, we expect that we will be subject to additional risks related to operating in foreign countries if we obtain the necessary approvals, including:

- differing regulatory requirements in foreign countries;
- unexpected changes in tariffs, trade barriers, price and exchange controls and other regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign taxes, including withholding of payroll taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incident to doing business in another country;
- difficulties staffing and managing foreign operations;
- workforce uncertainty in countries where labor unrest is more common than in the U.S.;
- differing payor reimbursement regimes, governmental payors or patient self-pay systems, and price controls;
- potential liability under the Foreign Corrupt Practices Act of 1977 or comparable foreign regulations;
- challenges enforcing our contractual and intellectual property rights, especially in those foreign countries that do not respect and protect intellectual property rights to the same extent as the U.S.;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad;
- the impact of public health epidemics on the global economy, such as the coronavirus pandemic currently having an impact throughout the world; and
- business interruptions resulting from geo-political actions, including war and terrorism.

These and other risks associated with international operations may materially adversely affect our ability to attain or maintain profitable operations.

We have formed, and may in the future form or seek, strategic alliances or enter into additional licensing arrangements in the future, and we may not realize the benefits of such alliances or licensing arrangements.

We have formed, and may in the future form or seek, strategic alliances, create joint ventures or collaborations or enter into additional licensing arrangements with third and related parties that we believe will complement or augment our development and commercialization efforts with respect to our product candidates and any future product candidates that we may develop. For example, during the third quarter of 2020, we entered into a Joint COVID-19 Collaboration Agreement with ImmunityBio, a related party, as further described above. In addition, we entered into an agreement whereby Viracta granted to us exclusive world-wide rights to Viracta's phase II drug candidate, VRx-3996, for use in combination with our platform of NK cell therapies. However, if Viracta fails to raise sufficient capital to complete their pivotal phase II trial, if their trial is unsuccessful, or if our future clinical trial of NK cell therapy in combination with VRx-3996 fails, the value of the Viracta license would be adversely affected.

Any of these relationships may require us to incur non-recurring and other charges, increase our near and long-term expenditures, issue securities that dilute our existing stockholders or disrupt our management and business. In addition, we face significant competition in seeking appropriate strategic partners and the negotiation process is time-consuming and complex. Moreover, we may not be successful in our efforts to establish a strategic partnership or other alternative arrangements for our product candidates because they may be deemed to be at too early of a stage of development for collaborative effort and third parties may not view our product candidates as having the requisite potential to demonstrate safety and efficacy. If we license products or acquire businesses, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture. We cannot be certain that, following a strategic transaction or license, we will achieve the revenue or specific net income that justifies such transaction. Any delays in entering into new strategic partnership agreements related to our product candidates could delay the development and commercialization of our product candidates in certain geographies for certain indications, which would harm our business prospects, financial condition and results of operations.

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

Our business model involves the storage and transmission of clinical trial and other data on our systems and on the systems of our consultants and contractors, and security breaches expose us to a risk of loss of this information, governmental fines and penalties, litigation and/or potential liability, in addition to negative publicity. Despite the implementation of security measures, our internal computer systems and those of our contractors and consultants are vulnerable to damage from computer viruses and unauthorized access. Our security measures and those of our contractors and consultants may also be breached due to employee error, malfeasance or otherwise. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our development programs and our business operations. For example, the loss of clinical trial data from completed, ongoing or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Likewise, we rely on affiliated entities and third parties for research and development of our product candidates and to conduct clinical trials and may rely on third parties for the manufacture of our product candidates and similar events relating to their computer systems could have a material adverse effect on our business.

We expect that these risks and exposures related to our internal computer systems will remain high for the foreseeable future due to the rapidly evolving nature and sophistication of cyber threats to our internal computer systems. Moreover, as the use of technology has become more prevalent in the course of business as a result of COVID-19, we may become more susceptible to operational, financial and information security risks resulting from cyber-attacks and/or technological malfunctions. There can be no assurance that our efforts to implement adequate security measures will remain sufficient to protect the company against future cyber-attacks. 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, suffer damage to our reputation, the further development and commercialization of our product candidates could be delayed, and our stock price could decline.

Future acquisitions and investments could disrupt our business and harm our financial condition and operating results.

Our success may depend, in part, on our ability to expand our products and services. In some circumstances, we may determine to do so through the acquisition of complementary businesses and technologies rather than through, or in conjunction with, internal development. The identification of suitable acquisition candidates can be difficult, time-consuming and costly, and we may not be able to successfully complete identified acquisitions. The risks we face in connection with acquisitions include:

- diversion of management time and focus from operating our business to addressing acquisition integration challenges;
- retention of key employees from the acquired company;
- coordination of research and development functions;
- integration of the acquired company’s accounting, management information, human resources and other administrative systems;
- liability for activities of the acquired company before the acquisition, including intellectual property infringement claims, employee disputes, and alleged violations of laws; and
- unanticipated write-offs or charges.

Our failure to address these risks or other problems encountered in connection with our past or future acquisitions and investments could cause us to fail to realize the anticipated benefits of these acquisitions or investments, cause us to incur unanticipated liabilities, and harm our business generally. Future acquisitions could also result in dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities, amortization expenses, incremental operating expenses or the write-off of goodwill, any of which could harm our financial condition or operating results.

Business disruptions could seriously harm our future revenue and financial condition and increase our costs and expenses.

Our operations, and those of our contractors and consultants, could be subject to earthquakes, power shortages, telecommunications failures, water shortages, floods, hurricanes, typhoons, fires, extreme weather conditions, medical epidemics and pandemics, acts of terrorism, acts of war and other natural or man-made disasters or business interruptions, for which we are predominantly self-insured. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses. We may rely on third-party manufacturers to produce and process our product candidates. Our ability to obtain clinical supplies of our product candidates could be disrupted if the operations of these suppliers are affected by a man-made or natural disaster, pandemics, epidemics, or other business interruption, including the continuing coronavirus pandemic. The extent to which coronavirus pandemic impacts our business will depend on future developments, which are highly uncertain and cannot be predicted, including new information which may emerge concerning the severity of COVID-19 and the actions to contain SARS-CoV-2 or treat its impact, among others. If any disaster were to occur, our ability to operate our clinical trials could be seriously, or potentially completely, impaired. Our corporate headquarters are in California near major earthquake faults and fire zones. Our operations and financial condition could suffer in the event of a major earthquake, fire or other natural disaster.

A coronavirus pandemic is ongoing in many parts of the world and may result in significant disruptions to our clinical trials, preclinical studies and supply chain which could have a material adverse effect on our business.

A coronavirus pandemic exists as of the filing of this report. As the pandemic continues to evolve, much of its impact remains unknown, and it is impossible to predict the impact it may have on the development of our business.

The coronavirus pandemic may result in significant delays or disruptions in our clinical trials, which could affect or delay the regulatory approval process of our product candidates. If the patients involved with these clinical trials become infected with the coronavirus disease, we may have more adverse events and deaths in our clinical trials as a result. We may also face difficulties enrolling patients in our clinical trials if the patient populations that are eligible for our clinical trials are impacted by the coronavirus pandemic.

Additionally, if our clinical trial patients are unable to travel to our clinical trial sites as a result of quarantines or other restrictions resulting from the coronavirus pandemic, we may experience higher drop-out rates or delays in our clinical trials.

The severity of the coronavirus pandemic could also make access to our existing supply chain difficult or impossible by delaying the delivery of key raw materials used in our product candidates and therefore delay the delivery of such products for use in our clinical trials. Any of these results could have a material adverse effect on our business.

Our manufacturing facilities may be negatively impacted by the ongoing coronavirus pandemic.

The coronavirus pandemic, including any actions we have taken in response, may disrupt our internal operations, including by heightening the risk that a significant portion of our workforce could suffer illness or otherwise not be permitted or be unable to work, and required that certain of our employees work remotely, which has heightened certain risks, including those related to cybersecurity and internal controls. Additionally the coronavirus pandemic has impacted, and may continue to impact, our office and manufacturing locations, as well as our analytical, process development, and transitional research teams, including through the effects of facility closures, reductions in operating hours and other social distancing efforts. For example, if even a small number of our employees in our working clusters related to manufacturing, analytical, process development, or translational research, tested positive for COVID-19, it would require us to temporarily close a number of our offices or manufacturing facilities and temporarily suspend operations in order to conduct a deep clean of the facilities in order to ensure the safety of our employees. Additionally, we cannot predict whether these conditions and concerns will continue or whether we will experience more significant or frequent disruptions in the future, including the complete closure of one or more of our facilities. In addition, in the event demand for our products is significantly reduced as a result of the coronavirus pandemic and related economic impacts, we may need to assess different corporate actions and cost-cutting measures, including reducing our workforce or closing one or more facilities, and these actions could cause us to incur costs and expose us to other risks and inefficiencies, including whether we would be able to rehire our workforce or recommence operations at a given facility if our business experiences a subsequent recovery.

Our employees, affiliates, independent contractors, clinical investigators, CROs, data safety and monitoring boards, consultants, commercial partners and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, and insider trading.

We are exposed to the risk of employee fraud, misconduct or other illegal activity by our employees, affiliates, independent contractors, clinical investigators, CROs, data safety and monitoring boards, consultants, commercial partners and vendors. Misconduct by these parties could include intentional, reckless or negligent conduct that fails to:

- comply with the laws and requirements 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, privacy and security and other laws in the U.S. and similar foreign fraudulent misconduct laws;
- comply with federal securities laws regulating insider trading; or
- report financial information or data accurately or to disclose unauthorized activities to us.

Our current and future business operations may subject us to fraud and abuse, transparency, health information privacy and security, and other healthcare laws and regulations. Failure to comply with such laws and regulations may result in substantial penalties.

Our current and future business operations may subject us to fraud and abuse, transparency, health information privacy and security, and other healthcare laws and regulations. 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 include the collection and/or use of information obtained in the course of patient recruitment for clinical trials. The healthcare laws that may affect our ability to operate include, but are not limited to:

- the federal Anti-Kickback Statute, which prohibits, among other things, knowingly and willfully soliciting, receiving, offering or providing any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual, or the purchase, lease, order or recommendation of any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs;
- federal civil and criminal false claims laws, including the civil False Claims Act, and civil monetary penalty laws, which impose criminal and civil penalties against individuals or entities for, among other things, knowingly presenting, or causing to be presented, claims for payment or approval from the federal government including Medicare and Medicaid, that are false or fraudulent or knowingly making a false statement to improperly avoid, decrease or conceal an obligation to pay money to the federal government;
- the U.S. federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created additional U.S. federal criminal statutes that prohibit, among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g., public or private), and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, which impose requirements, including mandatory contractual terms, on certain covered healthcare providers, health plans, and healthcare clearinghouses, as well as their respective business associates that perform services for them that involve the use, or disclosure of, individually identifiable health information, relating to the privacy, security and transmission of individually identifiable health information;
- the U.S. federal Physician Payments Sunshine Act, created under the Patient Protection and Affordable Care Act, as amended by the Health Care Education Reconciliation Act, which we refer to collectively as ACA, and its implementing regulations, which require certain manufacturers of drugs, devices, biologicals and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to the U.S. Department of Health and Human Services, or HHS, information related to payments or other transfers of value made to physicians (currently defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members by the 90th day of each subsequent calendar year, and disclosure of such information will be made by HHS on a publicly available website; and
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers.

Additionally, we are subject to state and foreign laws and regulations that are analogous to the healthcare laws and regulations described above, among others, some of which may be broader in scope and may apply regardless of the payor. Some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and relevant compliance guidance promulgated by the federal government; some state laws require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; some state and local laws that require the registration of pharmaceutical sales representatives; and some state and foreign laws govern the privacy and security of health information in ways that differ, and in certain cases are more stringent than, HIPAA, thus complicating compliance efforts.

We have adopted a code of business conduct and ethics, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent inappropriate conduct may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. Efforts to ensure that our business arrangements will comply with applicable healthcare laws may involve substantial costs. It is possible that governmental and enforcement authorities will conclude that our business practices do 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/or administrative penalties, damages, disgorgement, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations. Defending against any such actions can be costly, time-consuming, and may require significant financial and personnel resources. Therefore, even if we are successful in defending against any such actions that may be brought against us, our business may be impaired.

Competing generic medicinal products or biosimilars may be approved.

In the European Union, or E.U., there exists a process for approval of generic biological medicinal products once patent protection and other forms of data and market exclusivity have expired. Arrangements for approval of biosimilar products exist in the U.S., as well. Other jurisdictions are considering adopting legislation that would allow the approval of generic biological medicinal products. If generic medicinal products are approved, competition from such products may substantially reduce sales of our products.

Public opinion and scrutiny of cell-based immunotherapy approaches may impact public perception of our company and product candidates, or may adversely affect our ability to conduct our business and our business plans.

Our platform utilizes a relatively novel technology involving the genetic modification of human cells and utilization of those modified cells in other individuals, and no natural killer cell-based immunotherapy has been approved to date. Public perception may be influenced by claims, such as claims that cell-based immunotherapy is unsafe, unethical, or immoral and, consequently, our approach may not gain the acceptance of the public or the medical community. Negative public reaction to cell-based immunotherapy in general could result in greater government regulation and stricter labeling requirements of cell-based immunotherapy products, including any of our product candidates, and could cause a decrease in the demand for any products we may develop. Adverse public attitudes may adversely impact our ability to enroll clinical trials. Moreover, our success will depend upon physicians specializing in the treatment of those diseases that our product candidates target prescribing, and their patients being willing to receive, treatments that involve the use of our product candidates in lieu of, or in addition to, existing treatments they are already familiar with and for which greater clinical data may be available. More restrictive government regulations or negative public opinion could have an adverse effect on our business or financial condition and may delay or impair the development and commercialization of our product candidates or demand for any products we may develop. Adverse events in our clinical trials, even if not ultimately attributable to our product candidates, and the resulting publicity could result in increased governmental regulation, unfavorable public perception, potential regulatory delays in the testing or approval of our potential product candidates, stricter labeling requirements for those product candidates that are approved and a decrease in demand for any such product candidates.

Risks Relating to Government Regulation

We may fail to obtain or may experience delays in obtaining regulatory approval to market our aNK platform product candidates, which will significantly harm our business.

We do not have the necessary approval to market or sell aNK platform products in the U.S. or any foreign market. Before marketing aNK platform product candidates, we must successfully complete extensive preclinical studies and clinical trials and rigorous regulatory approval procedures. We cannot offer assurances that we will apply for or obtain the necessary regulatory approval to commercialize aNK platform product candidates in a timely manner, or at all.

Conducting clinical trials is uncertain and expensive and often takes many years to complete. The results from preclinical testing and early clinical trials are often not predictive of results obtained in later clinical trials. In conducting clinical trials, we may fail to establish the effectiveness of haNK, t-haNK, MSC and ceNK cells for the targeted indication or we may discover unforeseen side effects. Moreover, clinical trials may require the enrollment of large numbers of patients, and suitable patients may be difficult to identify and recruit. Clinical trials are also often subject to unanticipated delays. In addition, haNK, t-haNK, MSC and ceNK cells are produced in small-scale cell culture systems and we may be unable to adapt the production method to large-scale production systems. In addition, patients participating in the trials may die before completion of the clinical trial or suffer adverse medical effects unrelated to treatment with haNK, t-haNK, MSC and ceNK cells. This could delay or lead to termination of our clinical trials. A number of companies in the biotechnology industry have suffered significant setbacks in every stage of clinical trials, even in advanced clinical trials after positive results in earlier clinical trials.

To date, the FDA has approved only a few cell-based therapies for commercialization. The processes and requirements imposed by the FDA may cause delays and additional costs in obtaining regulatory approvals for our product candidates. Because our aNK platform product is novel, and cell-based therapies are relatively new, regulatory agencies may lack experience in evaluating product candidates like our aNK platform products. This inexperience may lengthen the regulatory review process, increase our development costs and delay or prevent commercialization of our aNK platform products. In addition, the following factors may impede or delay our ability to obtain timely regulatory approvals, if at all:

- potential delays in or failure to reach agreement on acceptable terms with prospective CROs and clinical sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- our failure to obtain sufficient enrollment in our clinical trials or participants may fail to complete our clinical trials;
- clinical trials of our product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs;
- regulators may require us to perform additional or unanticipated clinical trials to obtain approval or we may be subject to additional post-marketing testing requirements to maintain regulatory approval;
- regulators may revise the requirements for approving our product candidates, or such requirements may not be as we anticipate;
- the cost of clinical trials of our product candidates may be greater than we anticipate, and we may need to delay or suspend one or more trials until we complete additional financing transactions or otherwise receive adequate funding;
- the supply or quality of our product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient or inadequate or may be delayed;
- our product candidates may have undesirable side effects or other unexpected characteristics, causing us or our investigators, regulators or institutional review boards to suspend or terminate trials;
- regulatory authorities may suspend or withdraw their approval of a product or impose restrictions on its distribution;
- our limited experience in filing and pursuing Biologics License Applications, or BLAs, necessary to gain regulatory approvals related to genetically modified cancer cell line therapies;
- any failure to develop substantial evidence of clinical efficacy and safety, and to develop quality standards and manufacturing processes to demonstrate consistent safety, purity, identity, and potency standards;
- a decision by us, institutional review boards, or regulators to suspend or terminate our clinical trials for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks;
- regulatory inspections of our clinical trials, clinical trial sites or manufacturing facilities, which may, among other things, require us to undertake corrective action or suspend or terminate our clinical trials if regulators find us not to be in compliance with applicable regulatory requirements;
- our ability to produce sufficient quantities of haNK, taNK, t-haNK and ceNK cells to complete our clinical trials;
- varying interpretations of the data generated from our clinical trials;
- timely coordination with our related party, ImmunityBio, in connection with the filing of our BLA as a combined therapy;
- the ability of our related party, ImmunityBio, being commercially ready with a fully completed CMC package, and compliant with cGMP, for the manufacture of N-803 and aldoxorubicin; and
- changes in governmental regulations or administrative action.

Any delays in, or termination of, our clinical trials could materially and adversely affect our development and collaboration timelines, which may cause our stock price to decline. If we do not complete clinical trials for haNK, taNK, t-haNK and ceNK cells and seek and obtain regulatory approvals, we may not be able to recover any of the substantial costs we have invested in the development of haNK, taNK, t-haNK and ceNK cells.

Even if we obtain regulatory approvals for aNK related platform products, those approvals and ongoing regulation of our products may limit how we manufacture and market our products, which could prevent us from realizing the full benefit of our efforts.

If we obtain regulatory approvals, our aNK platform products, and our manufacturing facilities will be subject to continual regulatory review, including periodic unannounced inspections, by the FDA and other U.S. and foreign regulatory authorities. In addition, regulatory authorities may impose significant restrictions on the indicated uses or impose ongoing requirements for potentially costly post-approval studies. aNK platform product candidates would also be subject to ongoing FDA requirements governing the labeling, packaging, storage, advertising, promotion, recordkeeping and submission of safety and other post-market information. These and other factors may significantly restrict our ability to successfully commercialize haNK, taNK, t-haNK and ceNK cell therapies.

Manufacturers of biopharmaceutical products and their facilities, vendors and suppliers are subject to continual review and periodic unannounced inspections by the FDA and other regulatory authorities for compliance with cGMP regulations, which include requirements relating to quality control and quality assurance, as well as to the corresponding maintenance of records and documentation. Furthermore, our manufacturing facilities must be approved by regulatory agencies before these facilities can be used to manufacture aNK platform products, and they will also be subject to additional regulatory inspections. Any material changes we may make to our manufacturing process or to the components used in our products may require additional prior approval by the FDA and state or foreign regulatory authorities. Failure to comply with FDA or other applicable regulatory requirements may result in criminal prosecution, civil penalties, recall or seizure of products, partial or total suspension of production or withdrawal of a product from the market.

We must also report adverse events that occur when our products are used. The discovery of previously unknown problems with aNK, haNK, taNK, t-haNK and ceNK cells and therapies or our manufacturing facilities may result in restrictions or sanctions on our products or manufacturing facilities, including withdrawal of our products from the market or suspension of manufacturing. Regulatory agencies may also require us to reformulate our products, conduct additional clinical trials, make changes in the labeling of our product or obtain further approvals. This may harm our business and results of operations or cause our reputation in the market place to suffer or subject us to lawsuits, including class action suits.

Additionally, if one or more of our product candidates receives marketing approval, and we or others later identify undesirable side effects or adverse events caused by such products, a number of potentially significant negative consequences could result, including but not limited to:

- regulatory authorities may withdraw approvals of such product or require additional warnings on the label;
- we may be required to change the way the product is administered or conduct additional clinical trials or post-approval studies;
- we may be required to create a Risk Evaluation and Mitigation Strategy, or REMS, plan, which could include a medication guide outlining the risks of such side effects for distribution to patients, a communication plan for healthcare providers, or other elements to assure safe use;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

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

In addition, if we, our product candidates or the manufacturing facilities for our product candidates fail to comply with applicable regulatory requirements, a regulatory agency may:

- issue warning letters that can produce adverse publicity;
- impose civil or criminal penalties;
- suspend regulatory approval;
- suspend any ongoing clinical trials;
- refuse to approve pending applications or supplements to applications filed by us;
- impose restrictions on operations, including costly new manufacturing requirements;
- seize or detain products or request us to initiate a product recall; or
- pursue and obtain an injunction.

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

Obtaining and maintaining regulatory approval of our product candidates in one jurisdiction does not guarantee that we will be able to obtain or maintain regulatory approval in any other jurisdiction, while a failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory approval process in others. For example, even if the FDA grants marketing approval of a product candidate, comparable regulatory authorities in foreign jurisdictions must also approve the product, manufacturing, and in many cases reimbursement 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 some cases, the price that we intend to charge for our products is also subject to approval by regulatory authorities.

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 may seek orphan drug status or breakthrough therapy designation for one or more of our product candidates, but even if either is granted, we may be unable to maintain any benefits associated with breakthrough therapy designation or orphan drug status, including market exclusivity.

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biologic intended to treat a rare disease or condition or for which there is no reasonable expectation that the cost of developing and making available in the U.S. a drug or biologic for a disease or condition will be recovered from sales in the U.S. for that drug or biologic. If a product that has orphan drug designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications, including a full BLA to market the same drug or biologic for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity. In 2012, the FDA established a Breakthrough Therapy Designation, which is intended to expedite the development and review of products that treat serious or life-threatening conditions.

We may seek orphan drug status for one or more of our product candidates, but exclusive marketing rights in the U.S. may be lost if we seek approval for an indication broader than the orphan designated indication and may be lost if the FDA later determines that the request for designation was materially defective or if we are unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition. In addition, we may seek breakthrough therapy designation for one or more of our product candidates, but there can be no assurance that we will receive such designation.

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

A biopharmaceutical product cannot be marketed in the U.S. or other countries until we have completed rigorous and extensive regulatory review processes, including review and approval of a brand name. Any brand names we intend to use for our product candidates will require approval from the FDA regardless of whether we have secured a formal trademark registration from the U.S. Patent and Trademark Office, or the USPTO. The FDA may object to a product brand name if they believe the name creates potential for confusion or inappropriately implies medical claims. If the FDA objects to any of our proposed product brand names, we may be required to adopt an alternative brand name for our product candidates. If we adopt an alternative brand name, we would lose the benefit of our existing trademark applications for such product candidate and may be required to expend significant additional resources in an effort to identify a suitable product brand name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA. 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 product candidates.

Coverage and reimbursement decisions by third-party payors may have an adverse effect on pricing and market acceptance.

There is significant uncertainty related to the third-party coverage and reimbursement of newly approved drugs. Patients who are provided medical treatment for their conditions generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Therefore, market acceptance and sales of our products, if approved, in both domestic and international markets will depend significantly on the availability of adequate coverage and reimbursement from third party and/or government payors for any of our products and may be affected by existing and future healthcare reform measures. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which drugs they will cover and establish approved lists, known as formularies, and establish payment levels for such drugs. Formularies may not include all FDA-approved drugs for a particular indication. Private payors often follow Medicare coverage policy and payment limitations in setting their own payment rates. Any reduction in payment under Medicare Part D may result in a similar reduction in payments from non-governmental payors. We cannot be certain that coverage and adequate reimbursement will be available for any of our products, if approved, or that such coverage and reimbursement will be authorized in a timely fashion. In addition, we cannot be certain that reimbursement policies will not reduce the demand for, or the price paid for, any of our products, if approved. If reimbursement is not available or is available on a limited basis for any of our products, if approved, we may not be able to successfully commercialize any such products.

Reimbursement by a third party or government payor may depend upon a number of factors, including, without limitation, the third-party or government 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.

Obtaining coverage and reimbursement approval for a product from a government or other third-party payor is a time consuming and costly process that could require us to provide supporting scientific, clinical and cost-effectiveness data for the use of our products to the payor. We may not be able to provide data sufficient to gain acceptance with respect to coverage and reimbursement or to have pricing set at a satisfactory level. If reimbursement of our products, if any, is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels such as may result where alternative or generic treatments are available, we may be unable to achieve or sustain profitability.

Assuming we obtain coverage for a given product, the resulting reimbursement payment rates might not be adequate or may require co-payments that patients find unacceptably high. Patients are unlikely to use our products unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our products.

In the U.S., third-party payors include federal and state healthcare programs, government authorities, private managed care providers, private health insurers, and other organizations. No uniform policy of coverage and reimbursement for products exists among third-party payors, and third-party payors are increasingly challenging the price, examining the medical necessity, and reviewing the cost-effectiveness of medical drug products and medical services, in addition to questioning their safety and efficacy. Therefore, coverage and reimbursement for products can differ significantly from payor to payor. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our products to each payor separately, with no assurance that coverage and adequate reimbursement will be obtained. We or our collaborators may need to conduct expensive pharmaco-economic studies in order to demonstrate the medical necessity and cost-effectiveness of our products, in addition to the costs required to obtain the FDA approvals.

In some foreign countries, particularly in Europe, 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 reimbursement or pricing approval in some countries, we may be required to conduct additional clinical trials that compare the cost-effectiveness of our products to other available therapies. If reimbursement of any of our products, if approved, is unavailable or limited in scope or amount in a particular country, or if pricing is set at unsatisfactory levels, we may be unable to achieve or sustain profitability of our products in such country.

Recent legislative and regulatory activity may exert downward pressure on potential pricing and reimbursement for our products, if approved, that could materially affect the opportunity to commercialize.

The U.S. and several other jurisdictions are considering, or have already enacted, a number of legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell any of our products profitably, if approved. 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 to healthcare. In the U.S., the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives. 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 may adversely affect:

- the demand for any of our products, if approved;
- our ability to set a price that we believe is fair for any of our products, if approved;
- our ability to generate revenues and achieve or maintain profitability;
- the level of taxes that we are required to pay; and
- the availability of capital.

In March 2010, ACA became law in the U.S. The goal of ACA is to reduce the cost of healthcare, broaden access to health insurance, constrain healthcare spending, enhance remedies against fraud and abuse, add transparency requirements for the healthcare and health insurance industries, impose taxes and fees on the health industry, impose additional health policy reforms, and substantially change the way healthcare is financed by both governmental and private insurers. While we cannot predict what impact on federal reimbursement policies this legislation will have in general or on our business specifically, ACA may result in downward pressure on pharmaceutical reimbursement, which could negatively affect market acceptance of any of our products, if they are approved. Provisions of ACA relevant to the pharmaceutical industry include the following:

- an annual, nondeductible fee on any entity that manufactures or imports certain branded prescription drugs and biologic agents, apportioned among these entities according to their market share in certain government healthcare programs, not including orphan drug sales;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program to 23.1% and 13% of the average manufacturer price for most branded and generic drugs, respectively;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 70% point-of-sale discounts on negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D;
- extension of manufacturers' Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;
- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for certain individuals with income at or below 133% of the Federal Poverty Level, thereby potentially increasing manufacturers' Medicaid rebate liability;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;
- new requirements for certain manufacturers of drugs, devices, biologics, and medical supplies for which payment is available under Medicare, Medicaid, or the Children's Health Insurance Program, with specific exceptions to report annually certain financial arrangements with physicians, as defined by such law, and teaching hospitals, as defined in ACA and its implementing regulations, including reporting any payment or "transfer of value" provided to physicians and teaching hospitals and any ownership and investment interests held by physicians and their immediate family members during the preceding calendar year;
- expansion of healthcare fraud and abuse laws, including the U.S. federal False Claims Act and the U.S. federal Anti-Kickback Statute, new government investigative powers and enhanced penalties for noncompliance;
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in and conduct comparative clinical effectiveness research, along with funding for such research; and
- a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted, or injected.

The ACA has been modified and amended recently, including the elimination of the individual mandate that individuals purchase healthcare insurance. Furthermore, the current presidential administration and Congress may continue to attempt broad sweeping changes to the current health care laws. We face uncertainties that might result from modification or repeal of any of the provisions of the ACA, including as a result of current and future executive orders, legislative actions, and litigation, including the pending review by the U.S. Supreme Court of the constitutionality of the ACA. The impact of those changes on us and potential effect on the pharmaceutical and biotechnology industry as a whole is currently unknown. However, any changes to the ACA are likely to have an impact on our results of operations, and may have a material adverse effect on our results of operations. We cannot predict what other healthcare programs and regulations will ultimately be implemented at the federal or state level or the effect of any future legislation or regulation in the U.S. may have on our business.

We are subject to governmental export and import controls that could impair our ability to compete in international markets due to licensing requirements and subject us to liability if we are not in compliance with applicable laws. Compliance with these legal requirements could limit our ability to compete in foreign markets and subject us to liability if we violate them.

Our products and solutions are subject to export control and import laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, and various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls. Exports of our products and solutions outside of the U.S. must be made in compliance with these laws and regulations. If we fail to comply with these laws and regulations, we and certain of our employees could be subject to substantial civil or criminal penalties, including the possible loss of export or import privileges; fines, which may be imposed on us and responsible employees or managers; and, in extreme cases, the incarceration of responsible employees or managers.

In addition, changes in our products or solutions or changes in applicable export or import laws and regulations may create delays in the introduction, provision, or sale of our products and solutions in international markets, prevent customers from using our products and solutions or, in some cases, prevent the export or import of our products and solutions to certain countries, governments or persons altogether. Any limitation on our ability to export, provide, or sell our products and solutions could adversely affect our business, financial condition and results of operations.

We are subject to U.S. and foreign anti-corruption and anti-money laundering laws with respect to our operations and non-compliance with such laws can subject us to criminal and/or civil liability and harm our business.

We are subject to the U.S. Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, the U.S. domestic bribery statute contained in 18 U.S.C. §201, the U.S. Travel Act, the USA PATRIOT Act, and possibly other state and national anti-bribery and anti-money laundering laws in countries in which we conduct activities. Anti-corruption laws are interpreted broadly and prohibit companies and their employees, agents, third-party intermediaries, joint venture partners and collaborators from authorizing, promising, offering, or providing, directly or indirectly, improper payments or benefits to recipients in the public or private sector. We have used contract research organizations abroad for clinical trials. In addition, we may engage third party intermediaries to sell our products and solutions abroad once we enter a commercialization phase for our product candidates and/or to obtain necessary permits, licenses, and other regulatory approvals. We or our third-party intermediaries may have direct or indirect interactions with officials and employees of government agencies or state-owned or affiliated entities. We can be held liable for the corrupt or other illegal activities of these third-party intermediaries, our employees, representatives, contractors, partners, and agents, even if we do not explicitly authorize or have actual knowledge of such activities.

We have adopted an anti-corruption policy which mandates compliance with the FCPA and other anti-corruption laws applicable to our business throughout the world. However, there can be no assurance that our employees and third party intermediaries will comply with this policy or such anti-corruption laws. Noncompliance with anti-corruption and anti-money laundering laws could subject us to whistleblower complaints, investigations, sanctions, settlements, prosecution, other investigations, or other enforcement actions. If such actions are launched, or governmental or other sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, results of operations and financial condition could be materially harmed. In addition, responding to any action will likely result in a materially significant diversion of management's attention and resources and significant defense and compliance costs and other professional fees. In certain cases, enforcement authorities may even cause us to appoint an independent compliance monitor, which can result in added costs and administrative burdens.

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

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept payment of user fees, and statutory, regulatory, and policy changes. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of the FDA, the Securities and Exchange Commission, or SEC, and other government agencies on which our operations may rely is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, including beginning on December 22, 2018, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA and the SEC, have had to furlough critical FDA, SEC and other government employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, future government shutdowns could potentially impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

We may be, or may become, subject to data protection laws and regulations, and our failure to comply with such laws and regulations could lead to government enforcement actions and significant penalties against us, and adversely impact our operating results.

The E.U. has adopted data protection laws and regulations which may apply to us in certain circumstances, or in the future. These laws, which impose significant compliance obligations, are commonly known as the General Data Protection Regulation, or GDPR. The GDPR, which is wide-ranging in scope and applicability, 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, including clinical trials. The GDPR also imposes strict rules on the transfer of personal data out of the E.U. 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. Implementation of the GDPR, as applicable to us, will increase 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, other new regulation or legislative actions regarding data privacy and security (together with applicable industry standards) may increase our costs of doing 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 E.U. and other jurisdictions, and we cannot determine the impact such future laws, regulations and standards may have on our business.

Risks Relating to Our Intellectual Property

If our efforts to protect the intellectual property related to our product candidates are not adequate, we may not be able to compete effectively in our market.

We rely upon a combination of patents, trade secret protection and contractual agreements, including confidentiality agreements to protect the intellectual property related to our product candidates and technology. Any disclosure to or misappropriation by third parties of our confidential proprietary information could enable competitors to quickly duplicate or surpass our technological achievements, eroding our competitive position in the market. We believe that we have worldwide commercial rights to the NK-92 cell line and we believe that we control commercial use of our haNK, taNK, t-haNK, MSC and ceNK cells in key territories. We have developed and in-licensed numerous patents and patent applications and we possess substantial know-how and trade secrets relating to the development and commercialization of natural killer cell-based immunotherapy product candidates, including related manufacturing processes and technology. Our owned and licensed patent portfolio consists of patents and pending patent applications in the U.S. disclosing subject matter directed to certain of our proprietary technology, inventions, and improvements and our most advanced product candidates, as well as licensed and owned patents and pending applications in jurisdictions outside of the U.S., that, in many cases, are counterparts to the foregoing U.S. patents and patent applications. We believe we have intellectual property rights that are necessary to commercialize haNK, taNK, t-haNK, MSC and ceNK cells. However, our patent applications may not result in issued patents, and, even if issued, the patents may be challenged and invalidated. Moreover, our patents and patent applications may not be sufficiently broad to prevent others from practicing our technologies or developing competing products. We also face the risk that others may independently develop similar or alternative technologies or may design around our proprietary property.

The patent application process, also known as patent prosecution, is expensive and time-consuming, and we and our current or future licensors and licensees may not be able to prepare, file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we or our current licensors, or any future licensors or licensees, will fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. Therefore, these and any of our patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. Defects of form in the preparation or filing of our patents or patent applications may exist, or may arise in the future, for example with respect to proper priority claims, inventorship, etc. If we or our current licensors, or any future licensors or licensees, fail to establish, maintain or protect such patents and other intellectual property rights, such rights may be reduced or eliminated. If our current licensors, or any future licensors or licensees, are not fully cooperative or disagree with us as to the prosecution, maintenance or enforcement of any patent rights, such patent rights could be compromised. If there are material defects in the form or preparation of our patents or patent applications, such patents or applications may be invalid and unenforceable. Any of these outcomes could impair our ability to prevent competition from third parties, which may have an adverse impact on our business.

The strength of patents in the biopharmaceutical field involves complex legal and scientific questions and can be uncertain. This uncertainty includes changes to the patent laws through either legislative action to change statutory patent law or court action that may reinterpret existing law or rules in ways affecting the scope or validity of issued patents. The patent applications that we own or in-license may fail to result in issued patents in the U.S. or foreign countries with claims that cover our product candidates. Even if patents do successfully issue from the patent applications that we own or in-license, third parties may challenge the validity, enforceability or scope of such patents, which may result in such patents being narrowed, invalidated or held unenforceable.

Any successful challenge to our patents could deprive us of exclusive rights necessary for the successful commercialization of our product candidates. Furthermore, even if they are unchallenged, our patents may not adequately protect our product candidates, provide exclusivity for our product candidates, or prevent others from designing around our claims. If the breadth or strength of protection provided by the patents we hold or pursue with respect to our product candidates is challenged, it could dissuade companies from collaborating with us to develop, or threaten our ability to commercialize our product candidates.

Patents have a limited lifespan. In the U.S., the natural expiration of a patent is generally 20 years after its earliest effective non-provisional filing date. Various extensions may be available; however, the life of a patent, and the protection it affords, is limited. Without patent protection for our product candidates, we may be open to competition from generic versions of our product candidates. Further, if we encounter delays in our development efforts, including our clinical trials, the period of time during which we could market our product candidates under patent protection would be reduced.

In addition to the protection afforded by patents, we also rely on trade secret protection to protect proprietary know-how that may not be patentable or that we elect not to patent, processes for which patents may be difficult to obtain or enforce, and any other elements of our product candidates, and our product development processes (such as a manufacturing and formulation technologies) that involve proprietary know-how, information or technology that is not covered by patents. However, trade secrets can be difficult to protect. If the steps taken to maintain our trade secrets are deemed inadequate, we may have insufficient recourse against third parties for misappropriating any trade secrets. Misappropriation or unauthorized disclosure of our trade secrets could significantly affect our competitive position and may have a material adverse effect on our business. Furthermore, trade secret protection does not prevent competitors from independently developing substantially equivalent information and techniques and we cannot guarantee that our competitors will not independently develop substantially equivalent information and techniques. The FDA, as part of its Transparency Initiative, is currently considering whether to make additional information publicly available on a routine basis, including information that we may consider to be trade secrets or other proprietary information, and it is not clear at the present time how the FDA's disclosure policies may change in the future, if at all.

In an effort to protect our trade secrets and other confidential information, we require our employees, consultants, advisors, and any other third parties that have access to our proprietary know-how, information or technology, for example, third parties involved in the formulation and manufacture of our product candidates, and third parties involved in our clinical trials to execute confidentiality agreements upon the commencement of their relationships with us. These agreements require that all confidential information developed by the individual or made known to the individual by us during the course of the individual's relationship with us be kept confidential and not disclosed to third parties. However, we cannot be certain that our trade secrets and other confidential proprietary information will not be disclosed despite having such confidentiality agreements. Adequate remedies may not exist in the event of unauthorized use or disclosure of our trade secrets. In addition, in some situations, these confidentiality agreements may conflict with, or be subject to, the rights of third parties with whom our employees, consultants, or advisors have previous employment or consulting relationships. To the extent that our employees, consultants or contractors use any intellectual property owned by third parties in their work for us, disputes may arise as to the rights in any related or resulting know-how and inventions. If we are unable to prevent unauthorized material disclosure of our trade secrets to third parties, we may not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, operating results and financial condition.

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 biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly on obtaining and enforcing patents. Obtaining and enforcing patents in the pharmaceutical industry involves both technological and legal complexity, and therefore, is costly, time-consuming and inherently uncertain. In addition, the U.S. had previously enacted and implemented wide-ranging patent reform legislation (e.g., the Leahy-Smith America Invents Act in September 2011) and are currently considering additional legislation that may materially impact our ability to obtain or enforce our patents. Further, recent U.S. Supreme Court rulings and recent decisions from the United States Court of Appeals for the Federal Circuit have either narrowed the scope of patent protection available in certain circumstances or weakened the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained.

In addition, changes to U.S. patent laws provide additional procedures for third parties to challenge the validity of issued patents based on patent applications filed after March 15, 2013. If the breadth or strength of protection provided by the patents and patent applications we hold or pursue with respect to our current or future product candidates is challenged, then it could threaten our ability to commercialize our current or future product candidates and could threaten our ability to prevent competitive products from being marketed. Further, if we encounter delays in our clinical trials, the period of time during which we could market our current or future product candidates under patent protection would be reduced. Since U.S. patent applications are confidential for a period of time after filing, we cannot be certain that we were the first to either (i) file any patent application related to our product candidates, or (ii) invent any of the inventions claimed in our patents or patent applications. Furthermore, for applications filed before March 16, 2013, or patents issuing from such applications, an interference proceeding can be provoked by a third party or instituted by the U.S. Patent and Trademark Office, or USPTO, to determine who was the first to invent any of the subject matter covered by the patent claims of our applications and patents. As of March 16, 2013, the U.S. transitioned to a “first-to-file” system for deciding which party should be granted a patent when two or more patent applications are filed by different parties claiming the same invention. A third party that files a patent application with the USPTO before us could, therefore, be awarded a patent covering an invention of ours even if we had made the invention before it was made by the third party. The change to “first-to-file” from “first-to-invent” is one of the changes to the U.S. patent laws resulting from the Leahy-Smith America Invents Act, or the Leahy-Smith Act, signed into law on September 16, 2011.

Among some of the other significant changes to the patent laws are changes that limit where a patentee may file a patent infringement suit and provide opportunities for third parties to challenge any issued patent in the USPTO. This applies to all of our U.S. patents, even those issued before March 16, 2013. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in U.S. federal court necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. It is not yet clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

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

We strive to control cell line distribution, as well as limit commercial use through licenses and material transfer agreements with third parties in addition to our patents and patent applications. However, a company may illicitly obtain our cells or create their own modified variants and attempt to commercialize them in foreign countries where we do not have any patents or patent applications where legal recourse may be limited. For example, we believe that certain companies, including at least one in China, may be using our NK-92 cell line without our permission. This may have a significant commercial impact on our foreign business operations.

Filing, prosecuting and defending patents on our 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. The requirements for patentability may differ in certain countries, particularly developing countries. 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. and in some cases, may even force us to grant a compulsory license to competitors or other third parties. 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 on infringing activities is inadequate or 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.

Patents granted by the European Patent Office may be opposed by any person within nine months from the publication of their grant and, in addition, may be challenged before national courts at any time. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from designing around our claims. If the breadth or strength of protection provided by the patents and patent applications we hold, license or pursue with respect to our product candidates is threatened, it could threaten our ability to commercialize our product candidates.

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

Finally, our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in foreign intellectual property laws.

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

The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent prosecution process. Periodic maintenance fees and various other governmental fees on any issued patent and/or pending patent applications are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of a patent or patent application. We have systems in place to remind us to pay these fees, and we employ an outside firm and rely on our outside counsel to pay these fees. While an inadvertent lapse may sometimes be cured by payment of a late fee or by other means in accordance with the applicable rules, there are many situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. If we fail to maintain the patents and patent applications directed to our product candidates, our competitors might be able to enter the market earlier than should otherwise have been the case, which would have a material adverse effect on our business.

Third-party claims alleging intellectual property infringement may adversely affect our business.

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties, for example, the intellectual property rights of competitors. Our research, development and commercialization activities may be subject to claims that we infringe or otherwise violate patents owned or controlled by third parties. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing our product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our activities related to our product candidates may give rise to claims of infringement of the patent rights of others. We cannot assure you that our product candidates will not infringe existing or future patents. We may not be aware of patents that have already issued that a third party, for example a competitor in our market, might assert are infringed by our product candidates. It is also possible that patents of which we are aware, but which we do not believe are relevant to our product candidates, could nevertheless be found to be infringed by our product candidates. Nevertheless, we are not aware of any issued patents that we believe would prevent us from marketing our product candidates, if approved. There may also be patent applications that have been filed but not published that, when issued as patents, could be asserted against us.

Third parties making claims against us for infringement or misappropriation of their intellectual property rights may seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize our product candidates. Further, if a patent infringement suit were brought against us, we could be forced to stop or delay research, development, manufacturing or sales of the product or product candidate that is the subject of the suit. Defense of these claims, regardless of their merit, would cause us to incur substantial expenses, and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us by a third party, we may have to (1) pay substantial damages, including treble damages and attorneys' fees if we are found to have willfully infringed the third party's patents; (2) obtain one or more licenses from the third party; (3) pay royalties to the third party; and/or (4) redesign any infringing products. Redesigning any infringing products may be impossible or require substantial time and monetary expenditure. Further, we cannot predict whether any required license would be available at all or whether it would be available on commercially reasonable terms. In the event that we could not obtain a license, we may be unable to further develop and commercialize our product candidates, which could harm our business significantly. Even if we are able to obtain a license, the license would likely obligate us to pay license fees or royalties or both, and the rights granted to us might be nonexclusive, which could result in our competitors gaining access to the same intellectual property. Ultimately, we could be prevented from commercializing a product, or be forced to cease some aspect of our business operations, if, as a result of actual or threatened patent infringement claims, we are unable to enter into licenses on acceptable terms.

Defending ourselves or our licensors in litigation is very expensive, particularly for a company of our size, and time-consuming. Some of our competitors may be able to sustain the costs of litigation or administrative proceedings more effectively than we can because of greater financial resources. Patent litigation and other proceedings may also absorb significant management time. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could impair our ability to compete in the marketplace. The occurrence of any of the foregoing could have a material adverse effect on our business, financial condition or results of operations.

We may become involved in lawsuits to protect or enforce our patents or other intellectual property or the patents of our licensors, which could be expensive and time consuming.

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

Generic drug manufacturers may develop, seek approval for, and launch generic versions of our products. If we file an infringement action against such a generic drug manufacturer, that company may challenge the scope, validity or enforceability of our or our licensors' patents, requiring us and/or our licensors to engage in complex, lengthy and costly litigation or other proceedings.

For example, if we or one of our licensors initiated legal proceedings against a third party to enforce a patent covering our product candidates, the defendant could counterclaim that the patent covering our product candidates is invalid and/or unenforceable. In patent litigation in the 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.

In addition, within and outside of the U.S., there has been a substantial amount of litigation and administrative proceedings, including interference and reexamination proceedings before the USPTO or oppositions and other comparable proceedings in various foreign jurisdictions, regarding patent and other intellectual property rights in the biopharmaceutical industry. The Leahy-Smith Act introduced procedures including inter partes review and post grant review. The implementation of these procedures brings uncertainty to the possibility of challenges to our patents in the future, including those that patents perceived by our competitors as blocking entry into the market for their products, and the outcome of such challenges.

Such litigation and administrative proceedings could result in revocation of our patents or amendment of our patents such that they do not cover our product candidates. They may also put our pending patent applications at risk of not issuing, or issuing with limited and potentially inadequate scope to cover our product candidates. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. Additionally, it is also possible that prior art of which we are aware, but which we do not believe affects the validity or enforceability of a claim, may, nonetheless, ultimately be found by a court of law or an administrative panel to affect the validity or enforceability of a claim, for example if a priority claim is found to be improper. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we 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.

Enforcing our or our licensor's intellectual property rights through litigation is very expensive, particularly for a company of our size, and time-consuming. Some of our competitors may be able to sustain the costs of litigation more effectively than we can because of greater financial resources. Patent litigation and other proceedings may also absorb significant management time. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could impair our ability to compete in the marketplace. The occurrence of any of the foregoing could have a material adverse effect on our business, financial condition or results of operations.

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

If we fail to comply with our obligation in any of the agreements under which we license intellectual property rights from third parties or otherwise experience disruptions to our business relationships with our licensors, we could lose license rights that are important to our business.

Licensing of intellectual property rights is of critical importance to our business and involves complex legal, business and scientific issues. We rely on our exclusive license from Hans Klingemann, M.D., Ph.D., one of our founders and the inventor of our aNK and related platform product cell therapies, and subject to our freedom to operate we may or may not rely on our exclusive licenses from Rush University Medical Center, Fox Chase Cancer Center, the University Health Network, and other current and future licensors, including ImmunityBio with respect to the Joint COVID-19 Collaboration. If we fail to comply with the diligence obligations or otherwise materially breach our license agreement and fail to remedy such failure or cure such breach, the licensor may have the right to terminate the license.

Our obligation to pay royalties to Dr. Klingemann under the license agreement, as amended, runs until the expiration of the underlying patents and the license agreement may be terminated earlier by either party for material breach. Under the license agreement, we have the right to enforce the licensed patents.

Disputes may arise between us and our licensors regarding intellectual property rights subject to a license agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- our right to sublicense intellectual property rights to third parties under collaborative development relationships; and
- our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our product candidates, and what activities satisfy those diligence obligations.
- While we would expect to exercise all rights and remedies available to us, including seeking to cure any breach by us, and otherwise seek to preserve our rights under the patents licensed to us, we may not be able to do so in a timely manner, at an acceptable cost, or at all. Generally, the loss of any one of our current licenses, or any other license we may acquire in the future, could materially harm our business, prospects, financial condition and results of operations. In late May 2020, we received a letter from Fox Chase Cancer Center alleging breaches of our license. If the letter is found to be a proper notice of termination and the alleged breaches are confirmed and found to be material, we will lose the licensed rights. We do not consider these licensed rights to be material.

One of NantKwest's ten issued U.S. patents is subject to a claim challenging the inventorship.

On September 10, 2020, a legal complaint was filed in a California court where Institute for Cancer Research (d/b/a Fox Chase Cancer Center) argued that it has a co-ownership interest in U.S. Patent No. 10,456,420 and its underlying U.S. Patent Application No. 15/529,848, as well as in certain related patent applications or issued patents that include claimed subject matter allegedly invented by one of the claimant's employees. On September 30, 2020, NantKwest filed motion with the court asking that the complaint be dismissed. NantKwest disagrees that this claim for co-ownership has merit and intends to vigorously defend its position. All of the existing named inventors have assigned their rights in this patent to NantKwest. NantKwest will continue to have an undivided ownership interest in the technology covered by this patent even if claimant succeeds in this suit. Litigating this matter could result in substantial costs and be a distraction to management and other employees. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Confidentiality agreements with employees and others may not adequately prevent disclosure of our trade secrets and other proprietary information and may not adequately protect our intellectual property, which could limit our ability to compete.

Because we operate in the highly technical field of research and development, we rely in part on trade secret protection and confidentiality agreements, including those with our employees and consultants, in order to protect our proprietary trade secrets and unpatented know-how. However, trade secrets are difficult to protect, and we cannot be certain that others will not develop the same or similar technologies on their own. We have taken steps, including entering into confidentiality agreements with our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors, to protect our trade secrets and unpatented know-how. These agreements generally require that the other party keep confidential and not disclose to third parties all confidential information developed by the party or made known to the party by us during the course of the party's relationship with us. We also typically obtain agreements from these parties, which provide that inventions conceived by the party in the course of rendering services to us will be our exclusive property. However, these agreements may not be honored and may not effectively assign intellectual property rights to us. Adequate remedies may not exist in the event of unauthorized use or disclosure of our confidential intellectual property. Enforcing a claim that a party illegally obtained and is using our trade secrets or know-how is difficult, expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the U.S. may be less willing to protect trade secrets or know-how. The failure to obtain or maintain trade secret protection could adversely affect our competitive position. Also, third parties, including our competitors, may independently develop substantially equivalent proprietary information and technologies or otherwise lawfully gain access to our trade secrets and other confidential information. In such a case, we would have no right to prevent such third parties from using such proprietary information or technologies to compete with us, which could harm our competitive position.

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

Risks Relating to our Proposed Merger with ImmunityBio

We may suffer negative consequences if the proposed merger is not completed.

If the merger is not completed for any reason, we may suffer negative consequences and be subject to material risks, including:

- the market price of our common stock may decline to the extent that the current market price of such shares reflects a market assumption that the merger will be completed, or for other reasons;
- costs related to the merger, such as legal and accounting fees, must be paid even if the merger is not completed;
- the diversion of management attention from the day-to-day business of our company and the unavoidable disruption to our employees during the period before completion of the merger may make it difficult for us to regain our financial position and strategic focus if the merger does not occur;
- employees important to our success as a stand-alone company may have left in anticipation of the merger; and
- business opportunities important to us as a stand-alone company may have been terminated or not pursued by either us or third parties in anticipation of the merger.

We may not consummate the proposed merger with ImmunityBio in the time frame anticipated or at all.

In order for the merger to be completed, our stockholders must approve the merger. Due to the related party nature of the merger, we are required to obtain the affirmative vote of a majority of the minority of stockholders. If the required votes are not obtained by September 20, 2021, the merger will not be consummated. In addition, the merger is subject to the satisfaction of other customary closing conditions, and the merger agreement may be terminated by the parties under certain specified circumstances. As a result, we cannot assure you that the proposed merger with ImmunityBio will be completed, or that, if completed, it will be within the expected time frame.

The combined company may not realize all of the anticipated benefits of the proposed merger.

The success of the merger will depend, in part, on the ability of the combined company to realize the anticipated synergies, cost savings and growth opportunities from integrating our business with the business of ImmunityBio. The combined company's success in realizing these benefits and the timing of this realization depends upon the successful integration of the operations of ImmunityBio. The integration of two independent companies is a complex, costly and time-consuming process. The difficulties of combining the operations of the companies and realizing the expected benefits of the merger include, among others:

- coordinating commercial and clinical development initiatives and staffs;
- raising sufficient capital to fund the significant expenditures that are needed to launch and successfully commercialize our products;
- retaining key employees;
- consolidating research and development operations;
- consolidating corporate and administrative infrastructures and physical offices;
- integrating and managing the technology of two companies; and
- minimizing the diversion of management's attention from ongoing business concerns.

We cannot assure you that the integration of ImmunityBio with us will result in the realization of the full benefits anticipated to result from the merger.

The cash resources of the combined company could be materially depleted if a substantial number of ImmunityBio stockholders exercise their dissenters' or appraisal rights under applicable state law.

Holders of ImmunityBio capital stock who dissent and do not consent to the approval and adoption of the merger agreement may be entitled to certain dissenters' or appraisal rights under applicable state law in connection with the merger. If the merger is consummated, a holder of record of ImmunityBio stock who complies with the statutory procedures will be entitled to have those shares appraised by the Delaware Court of Chancery under Section 262 of the Delaware General Corporation Law and to receive payment for the "fair value" of those shares instead of the consideration provided for in the merger agreement. If a substantial number of ImmunityBio stockholders exercise their dissenters' or appraisal rights under applicable state law, the combined company may be required to make substantial payments in cash to these stockholders, thereby materially depleting the cash resources of the combined company.

We are expected to incur substantial expenses related to the proposed merger with ImmunityBio.

We are expected to incur substantial expenses in connection with the merger with ImmunityBio. We will incur significant fees and expenses relating to legal, accounting, financial advisory and other transaction fees and costs associated with the merger. Actual transaction costs may substantially exceed our estimates and may have an adverse effect on the combined company's financial condition and operating results.

We and ImmunityBio may become involved in securities litigation or stockholder derivative litigation in connection with the proposed merger, and this could divert the attention of our management and harm the combined company's business, and insurance coverage may not be sufficient to cover all related costs and damages.

Securities litigation or stockholder derivative litigation frequently follows the announcement of certain significant business transactions, such as the sale of a business division or announcement of a business combination transaction. We are involved in this type of litigation in connection with the merger as described in Part I, Item 3. "*Legal Proceedings–Litigation Related to the Merger with ImmunityBio*" in this Annual Report, and we and/or the combined company may become involved in this type of litigation in the future. Litigation often is expensive and diverts management's attention and resources, which could adversely affect our business and the combined company.

Risks Relating to Our Common Stock

Our Executive Chairman, and entities affiliated with him, collectively own a significant majority of our common stock and will exercise significant influence over matters requiring stockholder approval, regardless of the wishes of other stockholders.

As of December 31, 2020, our Executive Chairman, Dr. Patrick Soon-Shiong, and entities affiliated with him, collectively own approximately 64.4% of the outstanding shares of our common stock. Additionally, Dr. Soon-Shiong holds vested options to purchase an aggregate of 900,000 additional shares of our common stock, which would give him and his affiliates ownership of approximately 64.7% of our outstanding shares of common stock if they were exercised in full. In addition, pursuant to the Nominating Agreement between us and Cambridge Equities, LP, or Cambridge, an entity that Dr. Soon-Shiong controls, Cambridge has the ability to designate one director to be nominated for election to our board of directors for as long as Cambridge continues to hold at least 20% of the issued and outstanding shares of our common stock. Dr. Soon-Shiong was selected by Cambridge to hold this board seat. Dr. Soon-Shiong and his affiliates will therefore have significant influence over management and significant control over matters requiring stockholder approval, including the annual election of directors and significant corporate transactions, such as a merger or other sale of our company or its assets, for the foreseeable future. Finally, if the proposed merger with ImmunityBio is completed, Dr. Soon-Shiong will then hold approximately 82% of the shares of the combined company's common stock outstanding. This concentrated control will limit stockholders' ability to influence corporate matters and, as a result, we may take actions that our stockholders do not view as beneficial. As a result, the market price of our common stock could be adversely affected.

The market price of our common stock has been and may continue to be volatile, and investors may have difficulty selling their shares.

Although our common stock is listed on The Nasdaq Global Select Market, the market for our shares has demonstrated varying levels of trading activity. You may not be able to sell your shares quickly or at the market price if trading in shares of our common stock is not active. Further, an inactive market may also impair our ability to raise capital by selling shares of our common stock and may impair our ability to enter into strategic partnerships or acquire companies or products by using our shares of common stock as consideration.

The stock market in general and the market for biopharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. The market price of our common stock has been and may continue to be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control, including:

- the commencement, enrollment or results of the planned clinical trials of our product candidates or any future clinical trials we may conduct, or changes in the development status of our product candidates;
- any delay in our regulatory filings for our product candidates and any adverse development or perceived adverse development with respect to the applicable regulatory authority's review of such filings, including without limitation the FDA's issuance of a "refusal to file" letter or a request for additional information;
- adverse results or delays in clinical trials;
- our decision to initiate a clinical trial, not to initiate a clinical trial or to terminate an existing clinical trial;
- adverse regulatory decisions, including failure to receive regulatory approval of our product candidates;
- changes in laws or regulations applicable to our products, including but not limited to clinical trial requirements for approvals;
- our failure to commercialize our product candidates;
- additions or departures of key scientific or management personnel;
- unanticipated serious safety concerns related to the use of our product candidates;
- announcements by us or our competitors of significant contracts, acquisitions, strategic partnerships, joint ventures or capital commitments;
- our ability to effectively manage our growth;
- variations in our quarterly operating results;
- our cash position and the amount and nature of any debt we may incur;
- announcements that our revenue or income are below or that costs or losses are greater than analysts' expectations;

- publication of research reports about us or our industry, or immunotherapy in particular, or positive or negative recommendations or withdrawal of research coverage by securities analysts;
- changes in the market valuations of similar companies;
- sales of large blocks of our common stock;
- fluctuations in stock market prices and volumes;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- significant lawsuits, including patent or stockholder litigation;
- the perception of our clinical trial results by retail investors, which investors may be subject to the influence of information provided by third party investor websites and independent authors distributing information on the internet;
- general economic slowdowns;
- investors' perceptions regarding the viability, timing, and availability of COVID-19 vaccines; and
- the other factors described in this "*Risk Factors*" section.

In the past, securities class action litigation has often been instituted against companies following periods of volatility in the market price of a company's securities. This type of litigation could result in substantial costs and a diversion of management's attention and resources, which would harm our business, operating results or financial condition.

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

Sales of a substantial number of shares of our common stock in the public market could occur at any time. If our stockholders sell, or the market perceives that our stockholders intend to sell substantial amounts of our common stock in the public market, the market price of our common stock could decline significantly. In addition, as of December 31, 2020 our Executive Chairman, Dr. Patrick Soon-Shiong, and his affiliates beneficially owned approximately 64.7% of our outstanding shares of common stock. Sales of stock by Dr. Soon-Shiong and his affiliates could have an adverse effect on the trading price of our common stock.

Certain holders of approximately 46.2 million shares of our common stock are entitled to certain rights with respect to the registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares held by our affiliates as defined in Rule 144 under the Securities Act. Any sales of securities by these stockholders could have an adverse effect on the market price of our common stock.

In addition, we expect that additional capital may be needed in the future to continue our planned operations, including conducting clinical trials, commercialization efforts, expanded research and development activities and costs associated with operating a public company. To raise capital, we may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities or other equity securities, investors may be materially diluted by subsequent sales. Such sales may also result in material dilution to our existing stockholders, and new investors could gain rights, preferences and privileges senior to the holders of our common stock.

We have incurred and will continue to incur costs as a result of operating as a public company and our management has been and will be required to devote substantial time to compliance initiatives and corporate governance practices, including maintaining an effective system of internal control over financial reporting.

As a public company listed in the U.S., and increasingly after we no longer qualify as a "smaller reporting company," we have incurred and will continue to incur significant additional legal, accounting and other expenses as a result of operating as a public company. In addition, changing laws, regulations and standards relating to corporate governance and public disclosure, including Sarbanes-Oxley and regulations implemented by the SEC and Nasdaq, may increase legal and financial compliance costs and make some activities more time consuming. These laws, regulations and standards are subject to varying interpretations and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. We intend to invest resources to create a larger finance function with additional personnel to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expenses and a diversion of management's time and attention from revenue-generating activities to compliance activities. If, notwithstanding our efforts to comply with new laws, regulations and standards, we fail to comply, regulatory authorities may initiate legal proceedings against us and our business may be harmed.

As a public company in the U.S., we may be required, pursuant to Section 404 of Sarbanes-Oxley, or Section 404, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. The controls and other procedures are designed to ensure that information required to be disclosed by us in the reports that we file with the SEC is disclosed accurately and is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms. In addition, we are required to disclose any material weaknesses identified by our management in our internal control over financial reporting, and, when we no longer qualify as a "smaller reporting company," we will be required to provide a statement that our independent registered public accounting firm has issued an opinion on our internal control over financial reporting. To date, we have not engaged our independent registered public accounting firm to perform an audit of, and give an opinion on, our internal control over financial reporting. There can be no assurance that we will not discover deficiencies or a material weakness in our internal control over financial reporting or that our auditor will agree with management's assessment of our internal control over financial reporting if or when our auditor conducts such audit and delivers an opinion.

In the normal course of business our controls and procedures may become inadequate because of changes in conditions or the degree of compliance with these policies or procedures may deteriorate and material weaknesses in our internal control over financial reporting may be discovered. We may err in the design or operation of our controls, and all internal control systems, no matter how well designed and operated, can provide only reasonable assurance that the objectives of the control system are met. Because there are inherent limitations in all control systems, there can be no absolute assurance that all control issues have been or will be detected. If we are unable, or are perceived as unable, to produce reliable financial reports due to internal control deficiencies, investors could lose confidence in our reported financial information and operating results, which could result in a negative market reaction.

To fully comply with Section 404, we will need to retain additional employees to supplement our current finance staff, and we may not be able to do so in a timely manner, or at all. In addition, in the process of evaluating our internal control over financial reporting, we expect that certain of our internal control practices will need to be updated to comply with the requirements of Section 404 and the regulations promulgated thereunder, and we may not be able to do so on a timely basis, or at all. In the event that we are not able to demonstrate compliance with Section 404 in a timely manner, or are unable to produce timely or accurate financial statements, we may be subject to sanctions or investigations by regulatory authorities, such as the SEC or Nasdaq, and investors may lose confidence in our operating results and the price of our common stock could decline. Furthermore, if we are unable to certify that our internal control over financial reporting is effective and in compliance with Section 404, we may be subject to sanctions or investigations by regulatory authorities, such as the SEC or stock exchanges, and investors could lose confidence in the accuracy and completeness of our financial reports, which could hurt our business, the price of our common stock and our ability to access the capital markets.

Operating as a public company makes it more expensive for us to obtain directors' and officers' liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, on committees of our board of directors, or as members of senior management.

If a restatement of our financial statements were to occur, our shareholders' confidence in the company's financial reporting in the future may be affected, which could in turn have a material adverse effect on our business and stock price.

If any material weaknesses in our internal control over financial reporting are discovered or occur in the future, our consolidated financial statements may contain material misstatements, and we could be required to restate our financial results. In addition, if we are unable to successfully remediate any future material weaknesses in our internal controls or if we are unable to produce accurate and timely financial statements, our stock price may be adversely affected, and we may be unable to maintain compliance with applicable stock exchange listing requirements.

We have not paid cash dividends in the past and do not expect to pay dividends in the future. Any return on investment may be limited to the value of our common stock.

We have never paid cash dividends on our common stock and do not anticipate paying cash dividends in the foreseeable future. The payment of dividends on our common stock will depend on earnings, financial condition and other business and economic factors affecting us at such time as the board of directors may consider relevant. If we do not pay dividends, our common stock may be less valuable because a return on your investment will only occur if our stock price appreciates.

Because we are relying on the exemptions from corporate governance requirements as a result of being a "controlled company" within the meaning of the Nasdaq listing standards, you do not have the same protections afforded to stockholders of companies that are subject to such requirements.

Our Executive Chairman, Dr. Patrick Soon-Shiong, and entities affiliated with him, control a majority of our common stock. As a result, we are a "controlled company" within the meaning of the Nasdaq listing standards. Under these rules, a company of which more than 50% of the voting power is held by an individual, a group or another company is a "controlled company" and may elect not to comply with certain Nasdaq corporate governance requirements, including (1) the requirement that a majority of the board of directors consist of independent directors, and (2) the requirement that we have a nominating and corporate governance committee that is composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities. Accordingly, you do not have the same protections afforded to stockholders of companies that are subject to all of the Nasdaq corporate governance requirements. However, our board of directors is currently comprised of a majority of independent directors. In addition, although not required by the rules of Nasdaq, in August 2019, our board of directors established a nominating and corporate governance committee comprised of two directors, which are independent.

We are a "smaller reporting company," and the reduced disclosure requirements applicable to smaller reporting companies could make our common stock less attractive to investors.

Although we no longer qualify as an emerging growth company, we qualify as a "smaller reporting company" during fiscal year 2021, which allows us to take advantage of many of the same exemptions from disclosure requirements, including reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements. These exemptions include:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's discussion and analysis of financial condition and results of operations" disclosure;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting; and
- reduced disclosure obligations regarding executive compensation.

Investors may find our common stock less attractive as a result of our reliance on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and the market price of our common stock may be reduced or more volatile.

Our ability to use our net operating loss carryforwards, or NOLs, and certain other tax attributes to offset future taxable income may be subject to certain limitations.

As of December 31, 2020 we had U.S. federal, state and foreign NOLs of $389.8 million, $350.3 million and $0.2 million, respectively. Of the $389.8 million in federal NOLs, $226.4 million will not expire and will be able to offset 80% of taxable income in future years. Of the $350.3 million in state NOLs, $4.4 million will not expire and will be able to offset 80% of taxable income in future years. The remaining federal NOL carryforwards begin to expire in 2024, the remaining state NOL carryforwards begin to expire in 2030 and the foreign NOL carryforwards begin to expire in 2022. As of December 31, 2020, we also had federal and state research and development tax credit carryforwards of $11.1 million and state research tax credits of $7.8 million, respectively. The federal research tax credit carryforwards begin to expire in 2034 and certain state research tax credit carryforwards begin to expire in 2031. The California research tax credits can be carried forward indefinitely. These net operating loss and research and development tax credit carryforwards could expire unused and be unavailable to offset future income tax liabilities.

Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an "ownership change," the corporation's ability to use its pre-change NOLs and other pre-change tax attributes, such as research tax credits, to offset its future post-change income and taxes may be limited. In general, an "ownership change" occurs if there is a cumulative change in our ownership by "5% shareholders" that exceeds 50 percentage points over a rolling three-year period. Similar rules may apply under state tax laws. We completed an Internal Revenue Code Section 382/383 analysis through March 2019 regarding the limitation of net operating loss and research and development credit carryforwards. The analysis concluded that the federal and state carryforwards associated with the NOLs were reduced by the amount of tax attributes estimated to expire during their respective carryforward periods. The reduction in the NOLs was offset by a similar change in the valuation allowance.

Since we will need to raise substantial additional funding to finance our operations, we may experience further ownership changes in the future, some of which may be outside of our control. Limits on our ability to use our pre-change NOLs or credits to offset U.S. federal taxable income could potentially result in increased future tax liability to us if we earn net taxable income in the future. In addition, under the legislation commonly referred to as the Tax Cuts and Jobs Act of 2017, or TCJA, as modified by the Coronavirus Aid, Relief, and Economic Security Act, or the CARES Act, the amount of NOLs generated in taxable periods beginning after December 31, 2017, that we are permitted to deduct in any taxable year beginning after December 31, 2020 is limited to 80% of our taxable income in such year, where taxable income is determined without regard to the NOL deduction itself. The TCJA allows post-2017 unused NOLs to be carried forward indefinitely. Similar rules may apply under state tax laws.

We could be subject to additional income tax liabilities.

We are a U.S.-based company subject to tax in the U.S. and in Korea. Significant judgment is required in determining our global provision for income taxes, deferred tax assets or liabilities, and in evaluating our tax positions on a worldwide basis. While we believe our tax positions are consistent with the tax laws in the jurisdictions in which we conduct our business, it is possible that these positions may be overturned by jurisdictional tax authorities, which may have a significant impact on our global provision for income taxes.

Our business may be materially affected by changes to fiscal and tax policies. Negative or unexpected tax consequences could adversely affect our results of operations.

New tax laws, statutes, rules, regulations or ordinances could be enacted at any time, which could adversely affect our domestic and international business operations, and our business and financial performance. Further, existing tax laws, statutes, rules, regulations or ordinances could be interpreted, changed, modified or applied adversely to us. For example, the Tax Cuts and Jobs Act of 2017, or TCJA, which was approved by Congress on December 20, 2017 significantly changed the U.S. Internal Revenue Code. Such changes include a reduction in the corporate tax rate and limitations on certain corporate deductions and credits, among other changes. We have generally accounted for such changes in accordance with our understanding of the TCJA and guidance available as of the date of this filing as described in more detail in our financial statements. The CARES Act, which was signed into law on March 27, 2020, further modified the TCJA and we will continue to monitor and assess the impact of the federal legislation on our business and the extent to which various states conform to the newly enacted federal tax law. In addition, adverse changes in the financial outlook of our operations or further changes in tax laws or regulations could lead to changes in our valuation allowances against deferred tax assets on our consolidated balance sheets, which could materially affect our results of operations.

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

The trading market for our common stock will depend on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. There can be no assurance that analysts will cover us or provide favorable coverage. If one or more of the analysts who cover us downgrade our stock or change their opinion of our stock, our share price would likely decline. If one or more of these analysts' cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

We are not subject to the provisions of Section 203 of the Delaware General Corporation Law, which could negatively affect your investment.

We elected in our amended and restated certificate of incorporation to not be subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. A "business combination" includes a merger, asset sale or other transaction resulting in a financial benefit to the interested stockholder. An "interested stockholder" is a person who, together with affiliates and associates, owns (or, in certain cases, within three years prior, did own) 15% or more of the corporation's voting stock. Our decision not to be subject to Section 203 will allow, for example, our Executive Chairman (who with members of his immediate family and entities affiliated with him owned approximately 64.4% of our common stock as of December 31, 2020) to transfer shares in excess of 15% of our voting stock to a third-party free of the restrictions imposed by Section 203. This may make us more vulnerable to takeovers that are completed without the approval of our board of directors and/or without giving us the ability to prohibit or delay such takeovers as effectively.

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

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

- a requirement that special meetings of stockholders be called only by the board of directors, the president or the chief executive officer;
- advance notice requirements for stockholder proposals and nominations for election to our board of directors; and
- the authority of the board of directors to issue preferred stock on terms determined by the board of directors without stockholder approval and which preferred stock may include rights superior to the rights of the holders of common stock.

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

Claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Our amended and restated certificate of incorporation and amended and restated bylaws provide that we will indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law. In addition, as permitted by Section 145 of the Delaware General Corporation Law, our amended and restated bylaws and our indemnification agreements that we have entered into with our directors and officers provide that:

- We will indemnify our directors and officers for serving us in those capacities or for serving other business enterprises at our request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person’s conduct was unlawful.
- We may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law.
- We are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification.
- We are not obligated pursuant to our amended and restated bylaws to indemnify a person with respect to proceedings initiated by that person against us or our other indemnitees except with respect to proceedings authorized by our board of directors or brought to enforce a right to indemnification.
- The rights conferred in our amended and restated bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees and agents and to obtain insurance to indemnify such persons.
- We may not retroactively amend our bylaw provisions to reduce our indemnification obligations to directors, officers, employees and agents.

To the extent that a claim for indemnification is brought by any of our directors or officers, it would reduce the amount of funds available for use in our business.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

The following table summarizes our principal properties leased as of December 31, 2020:

Principal Properties Leased:	Approximate Square Feet	Operation	Lease Expiration Dates
San Diego, California	44,681	Laboratory - Research, Office	July 2023
El Segundo, California*	24,250	Laboratory - Research & Manufacturing	July 2023
Culver City, California*	9,500	Laboratory - Research & Manufacturing	December 2021
Woburn, Massachusetts	8,153	Laboratory - Research, Office	May 2022
El Segundo, California*	6,901	Laboratory - Research & Manufacturing	July 2022
Torrance, California**	1,034	Laboratory - Research	June 2027

* *Property leased from a related party.*

** *Represents square footage dedicated to us within the facility, however, the lease also permits our non-exclusive use of the third party's vivarium premises.*

The following table summarizes our principal property owned as of December 31, 2020:

Principal Property Owned:	Approximate Square Feet	Operation
El Segundo, California	36,434	Distribution Warehouse

For additional information, see Note 9, *Commitments and Contingencies*, *Contractual Obligations – Leases*, and Note 10, *Related Party Agreements*, of the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report.

Item 3. Legal Proceedings.

From time to time, we may be involved in various claims and legal proceedings relating to claims arising out of our operations. We are not currently a party to any legal proceedings that, in the opinion of our management, are likely to have a material adverse effect on our business. Regardless of outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

Fox Chase Litigation

On July 21, 2020, we filed a declaratory judgment lawsuit in the Superior Court for San Diego County, California, naming Fox Chase Cancer Center Foundation and Institute for Cancer Research as the defendants ("Fox Chase"). This litigation relates to an exclusive license agreement by which Fox Chase granted us various intellectual property rights (including patent rights) for certain modified NK-92 cell technologies dating back to 2004 ("2004 License"). We requested the Court to grant declarations that we have not breached any material obligation under the 2004 License and that Fox Chase has not and cannot terminate the 2004 License. Fox Chase has answered the Complaint, lodged a Cross-Complaint raising a patent inventorship challenge, and moved the case to federal court (See Part I, Item 1A, "*Risk Factors*" of this Annual Report for a more detailed discussion). While the litigation is in the early stage, its outcome cannot be predicted. We do not consider the Fox Chase license agreement to be material to our business.

Litigation Related to the Merger with ImmunityBio, Inc.

In connection with our merger (the Merger) with ImmunityBio, Inc., a Delaware corporation (ImmunityBio), via a wholly owned subsidiary of NantKwest (the Merger Sub), seven complaints have been filed as individual actions in United States District Courts. Three complaints have been filed in the United States District Court for the District of Delaware against NantKwest and its directors and are captioned *Hargett v. NantKwest, Inc., et al.*, 1:21-cv-00197 (filed February 11, 2021) (the Hargett Complaint), *Franchi v. NantKwest, Inc., et al.*, 1:21-cv-00218 (filed February 16, 2021) (the Franchi Complaint), and *Gross v. NantKwest, Inc., et al.*, 1:21-cv-00223 (filed February 17, 2021) (the Gross Complaint). One complaint has been filed in the United States District Court for the Southern District of New York and is captioned *Leaman v. NantKwest, Inc., et al.*, 1:21-cv-01351 (filed February 16, 2021) (the Leaman Complaint). Two complaints has been filed in the United States District Court for the Southern District of California and are captioned *Weiss v. NantKwest, Inc., et al.*, 3:21-cv-00280 (filed February 16, 2021) (the Weiss Complaint) and Carlisle v. NantKwest, Inc., et al., 3:21-cv-00304 (filed February 19, 2021) (the Carlisle Complaint). One complaint has been filed in the United States District Court for the Eastern District of New York and is captioned *Shenk v. NantKwest, Inc., et al.*, 1:21-cv-00871 (filed February 18, 2021) (the Shenk Complaint, and collectively with the Hargett Complaint, the Franchi Complaint, the Gross Complaint, the Leaman Complaint, the Weiss Complaint, and the Carlisle Complaint, the Merger Actions). The Hargett Complaint and the Gross Complaint also bring claims against ImmunityBio, and Merger Sub. The Merger Actions generally allege that the Definitive Proxy Statement filed with the SEC on February 2, 2021 misrepresents and/or omits certain purportedly material information relating to financial projections, analysis performed by the financial advisor to NantKwest's Special Committee, alleged past engagements of the Special Committee's financial advisor and industry consultant, and the terms of the engagement of such consultant. The Merger Actions assert violations of Sections 14(a) of the Securities Exchange Act of 1934, as amended (the Exchange Act), and Rule 14a-9 promulgated thereunder against all defendants and violations of Section 20(a) of the Exchange Act against NantKwest's directors. The Merger Actions seek, among other things, an injunction enjoining the stockholder vote on the Merger and the consummation of the Merger unless and until certain additional information is disclosed to NantKwest's stockholders, costs of the action, including plaintiffs' attorneys' fees and experts' fees, and other relief the Court may deem just and proper. NantKwest cannot predict the outcome of the Merger Actions. NantKwest believes the Merger Actions are without merit and NantKwest and the individual defendants intend to vigorously defend against the Merger Actions and any subsequently filed similar actions. If additional similar complaints are filed, absent new or significantly different allegations, NantKwest will not necessarily disclose such additional filings.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

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

Market Information for Common Stock

Our common stock began trading on the Nasdaq Global Select Market under the symbol "NK" on July 28, 2015. Prior to that date, there was no public trading market for our common stock.

Holders of Record

As of March 3, 2021, we had 30 holders of record of our common stock. The actual number of stockholders is greater than the number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust or by other entities.

Dividend Policy

To date, we have not declared or paid any cash dividends. We currently intend to retain all available funds and any future earnings for use in the operation of our business and do not anticipate paying any dividends on our common stock in the foreseeable future. Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on, among other factors, our financial condition, operating results, capital requirements, general business conditions and other factors that our board of directors may deem relevant.

Securities Authorized for Issuance Under Our Equity Compensation Plans

Information regarding our equity compensation plans is incorporated by reference to Item 12, "*Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*" of Part III of this Annual Report.

Recent Sales of Unregistered Securities

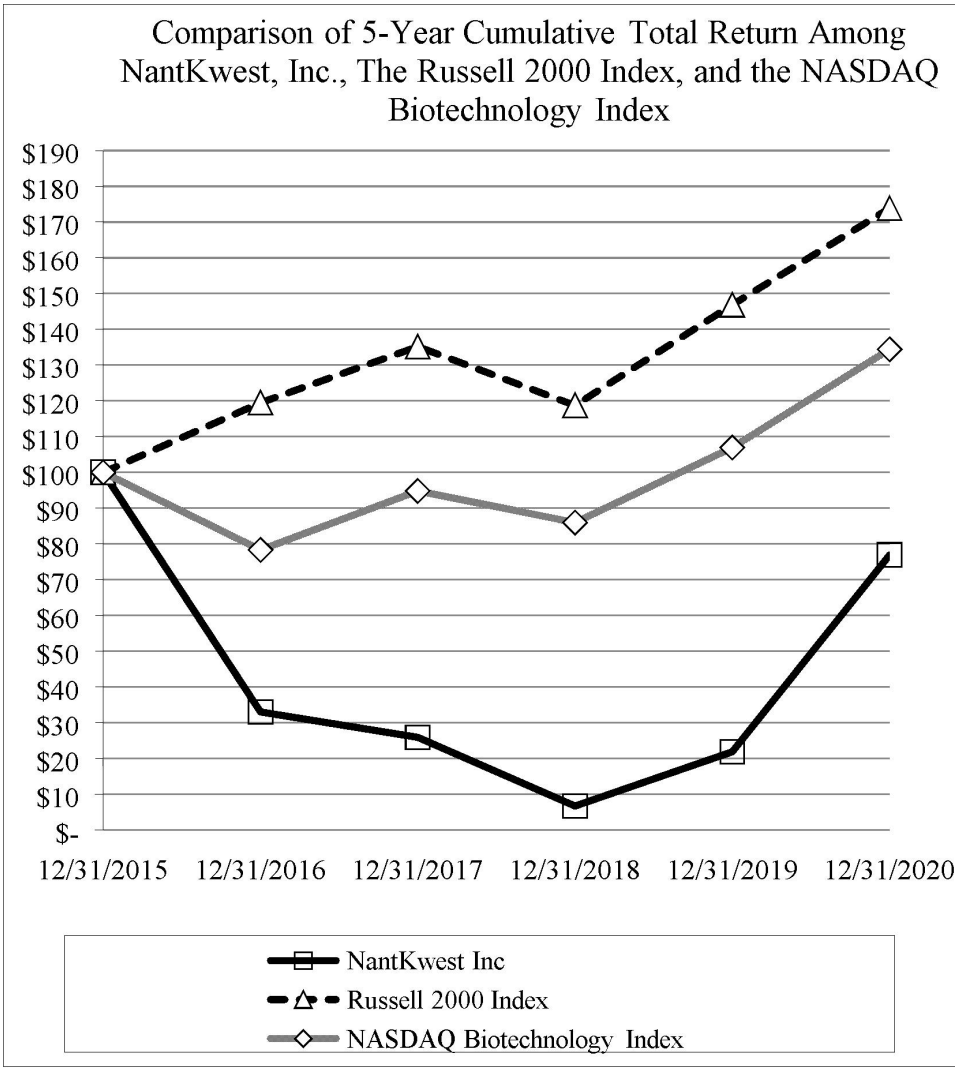
None.

Repurchases of Equity Securities by the Issuer

We did not repurchase any shares of our common stock during the three months ended December 31, 2020. At December 31, 2020, $18.3 million remained authorized for repurchase under our stock repurchase program. For additional information regarding our stock repurchase program, see Note 11, *Stockholders Equity*, of the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report.

Stock Performance Graph

The following graph compares the cumulative total return on our common stock, the Russell 2000 Index, and the Nasdaq Biotechnology Index over the five-year period ending December 31, 2020. The graph assumes that $100 was invested in our common stock and in each of the comparative indices as of the market close on December 31, 2015. The returns shown are based on historical results and are not indicative of, or intended to forecast, future performance of our common stock or the comparative indices. This performance graph shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or incorporated by reference into any filing of NantKwest, Inc. under the Securities Act of 1933, as amended, or the Securities Act.



Item 6. Selected Financial Data.

The following selected consolidated financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations," the consolidated financial statements and related notes, and other financial information included in this Annual Report on Form 10-K, or Annual Report.

The selected consolidated statements of operations data for the years ended December 31, 2020, 2019 and 2018 and the selected consolidated balance sheet data as of December 31, 2020 and 2019 are derived from our audited consolidated financial statements included elsewhere in this Annual Report. The following selected consolidated statements of operations data for the years ended December 31, 2017 and 2016 and the selected consolidated balance sheet data as of December 31, 2018, 2017 and 2016 are derived from our audited consolidated financial statements not included in this Annual Report.

	For the Year Ended December 31, (In thousands, except share and per share amounts)				
	2020	2019	2018	2017	2016
Revenue	$ 111	$ 43	$ 47	$ 45	$ 44
Operating expenses:					
Research and development (including amounts with related parties)	64,483	49,785	55,718	42,044	29,153
Selling, general and administrative (including amounts with related parties)	27,254	18,065	42,718	57,121	95,391
Total operating expenses	91,737	67,850	98,436	99,165	124,544
Loss from operations	(91,626)	(67,807)	(98,389)	(99,120)	(124,500)
Other income (expense):					
Investment income, net	366	1,642	1,857	2,665	3,097
Interest expense (including amounts with related parties)	(41)	(19)	(433)	(618)	(66)
Other (expense) income, net (including amounts with related parties)	(1,077)	298	236	157	88
Total other (expense) income	(752)	1,921	1,660	2,204	3,119
Loss before income taxes	(92,378)	(65,886)	(96,729)	(96,916)	(121,381)
Income tax (expense) benefit	(5)	97	503	493	572
Net loss	$ (92,383)	$ (65,789)	$ (96,226)	$ (96,423)	$ (120,809)
Net loss per share:					
Basic and diluted	$ (0.89)	$ (0.70)	$ (1.22)	$ (1.20)	$ (1.47)
Weighted average number of shares during the period:					
Basic and diluted	103,550,936	94,210,087	79,132,220	81,979,005	81,979,005

	As of December 31, (In thousands)				
	2020	2019	2018	2017	2016
Balance Sheet Data:					
Cash and cash equivalents	$ 11,441	$ 15,508	$ 16,821	$ 23,872	$ 8,083
Working capital	50,847	44,198	61,512	111,590	192,592
Total assets	151,858	143,123	181,950	250,440	317,496
Total liabilities	34,465	22,444	35,944	31,596	24,078
Total stockholders' equity	117,393	120,679	146,006	218,844	293,418

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

The following discussion and analysis of our financial condition and results of operations should be read together with Item 6, "Selected Financial Data," the description of the business appearing in Item 1, "Business," of this report, and the Consolidated Financial Statements in Item 8 of this Annual Report on Form 10-K and the related notes included elsewhere in this report. This discussion contains forward-looking statements as a result of many factors, including those set forth under Item 1, "Business – Forward-Looking Statements" and Item 1A, "Risk Factors", and elsewhere in this Annual Report on Form 10-K. These statements are based on current expectations and assumptions that are subject to risks and uncertainties. Actual results could differ materially from those discussed in or implied by forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this report, particularly in Item 1A, "Risk Factors".

Overview

We are a pioneering clinical-stage immunotherapy company focused on harnessing the power of the innate immune system by using our natural killer cells, or NK cells, to treat cancer and viral infectious diseases. NK cells are the body's first line of defense due to their innate ability to rapidly seek and destroy abnormal cells, such as cancer or virally infected cells, without prior exposure or co-activation by other support molecules that are typically required to train and activate adaptive immune cells such as T-cells.

A critical aspect of our strategy is to invest significantly in innovating new therapeutic candidates, based upon our proprietary activated NK, or aNK, cell platform, and conducting clinical testing and scale manufacturing of our most promising biologic product candidates. We believe our aNK cell is capable of being manufactured as a cell-based "off-the-shelf" therapy that can be molecularly engineered in a variety of ways to boost its killing capabilities against cancers and virally infected cells.

We retain worldwide commercial rights to clinical and research data, intellectual property and know-how developed with our aNK cells, as well as clinical grade master and working cell banks of aNK, haNK and t-haNK cell lines.

Agreement and Plan of Merger with ImmunityBio, Inc.

On December 21, 2020, NantKwest and ImmunityBio, Inc. (ImmunityBio) entered into an Agreement and Plan of Merger (the Merger Agreement), pursuant to which NantKwest and ImmunityBio agreed to combine their businesses. The Merger Agreement provides that a wholly owned subsidiary of NantKwest will merge with and into ImmunityBio (the Merger), with ImmunityBio continuing as the surviving company and being renamed NantCell, Inc., upon the terms and subject to the conditions therein. At the effective time of the Merger (the Effective Time), NantKwest's name, as the parent of NantCell, Inc., will be changed to "ImmunityBio, Inc."

At the Effective Time, each share of ImmunityBio common stock issued and outstanding immediately prior to the Effective Time, subject to certain exceptions as set forth in the Merger Agreement, will be converted automatically into a right to receive 0.8190 shares of NantKwest common stock. At the Effective Time, each share of NantKwest common stock issued and outstanding immediately prior to the Effective Time, will remain an issued and outstanding share of the combined company. At the Effective Time, each outstanding option, warrant or restricted stock unit to purchase ImmunityBio common stock will be converted (using the merger exchange ratio of 0.8190) into an option, warrant or restricted stock unit, respectively, on the same terms and conditions immediately prior to the Effective Time, to purchase shares of common stock of the combined company.

Upon consummation of the Merger, on a fully-diluted basis, ImmunityBio stockholders and NantKwest stockholders will own approximately 72% and 28%, respectively, of the outstanding shares of common stock of the combined company. It is estimated that, immediately following the closing date, Dr. Patrick Soon-Shiong, our Executive Chairman and principal stockholder, and his affiliates will beneficially own, in the aggregate, approximately 82% of the common stock of the combined company.

Following consummation of the Merger, shares of common stock of the combined company are expected to be listed on the Nasdaq Global Select Market under the symbol "IBRX".

Under the terms and subject to the conditions set forth in the Merger Agreement, the closing of the Merger depends on a number of conditions being satisfied, including approval of the Merger by holders of a majority of the outstanding shares of NantKwest common stock as of the NantKwest record date (excluding all shares of NantKwest common stock beneficially owned by Dr. Patrick Soon-Shiong and his affiliates Cambridge Equities, LP and Chan Soon-Shiong Family Foundation or any of their respective controlled affiliates or any of the directors or executive officers of NantKwest or ImmunityBio).

On February 1, 2021, our Registration Statement on Form S-4, which was filed with the Securities and Exchange Commission (SEC) in connection with the Merger, was declared effective by the SEC.

A special meeting of the stockholders of NantKwest will be held on March 8, 2021 to consider and vote on a proposal to approve the issuance of shares of common stock of NantKwest to security holders of ImmunityBio, and to consider and vote on a proposal to approve the Merger. Only holders of record of NantKwest common stock at the close of January 29, 2021, will be entitled to notice of and to vote at the special meeting.

We expect the Merger to close in the first quarter of 2021, subject to receipt of the requisite stockholder approvals and satisfaction of other customary closing conditions.

The Merger is expected to be accounted for as a transaction between entities under common control as Dr. Patrick Soon-Shiong is the controlling stockholder of each of NantKwest and ImmunityBio. Upon the closing of the Merger, the net assets of ImmunityBio will be combined with those of NantKwest at their historical carrying amounts and the companies will be presented on a combined basis for all historical periods presented.

For the year ended December 31, 2020, we incurred costs of $6.2 million in connection with our proposed merger with ImmunityBio, consisting of financial advisory, legal and other professional fees.

Our Off-the-Shelf Approach

Multiple Modes of aNK Directed Tumor Cell Killing. Our NK platform has demonstrated the ability to induce cell death in cancers and virally infected cells through a variety of concurrent mechanisms including:

i. *Innate Killing*, whereby all of our NK platforms, aNK, haNK, taNK and t-haNK, recognize the abnormal proteins typically found on the surfaces of metabolically stressed cells, which upon binding, release toxic granules to immediately kill their targets;

ii. *Antibody-Mediated Killing* with our haNK and t-haNK platforms, which are aNK cells engineered to express antibody receptors that can bind to therapeutically administered antibody products or to antibodies naturally produced in the body, thereby enhancing the cancer cell killing effects of those antibodies through Antibody Dependent Cellular Cytotoxicity, or ADCC; and

iii. *CAR-Directed Killing* with our taNK and t-haNK platforms, which are aNK cells engineered to express chimeric antigen receptors, or CARs, that target tumor-specific proteins commonly found only on the surfaces of cancer cells and upon binding, induce cell death through the release of toxic granules directly into their targets and by the release of cytokines and chemokines, which recruit additional innate and adaptive immune responses, including the recruitment of cytotoxic T-cells.

All three modes of killing; *Innate Killing, Antibody-Mediated Killing, and CAR-Directed Killing*, are employed by our proprietary t-haNK platform, which combines all the enhanced NK killing functions of aNK, haNK and taNK into a single product platform.

Our primary target therapeutic area is cancer, with a heavy emphasis on solid tumors. According to the National Cancer Institute, almost 1.9 million new cancer cases are expected to be diagnosed in the U.S. during 2021, adding to the 16.9 million already living with cancer. In addition, we plan to advance therapies for hematologic malignancies and virally induced infectious diseases.

Innate Killing—the aNK Platform. We have developed a unique NK cell platform, which we believe is capable of being manufactured as a cell-based “off-the-shelf” therapy that can be molecularly engineered in a variety of ways to boost its killing capabilities against cancers and virally infected cells. Unlike normal natural killer cells, our NK cells do not express the key inhibitory receptors that diseased cells often exploit to turn off the killing function of natural killer cells and escape elimination. We have developed a unique aNK cell, which omits key inhibitory receptors, while preserving critical activation receptors that enable selective innate targeting and killing of distressed and diseased cells. They do so through the recognition and binding of stress-proteins that are overexpressed on the surfaces of

i. rapidly growing cancer cells due to oxidative and metabolic stress, nutrient deprivation and waste accumulation that typically occurs when cell growth outpaces the capacity of local circulation; and

ii. virally infected cells where the cellular machinery is hijacked to produce an abundance of viral proteins and virions.

Our aNK cells are also designed to deliver a more lethal blow to their target by delivering a larger payload of lytic enzymes and cytokines responsible for both direct and indirect killing when compared to other natural killer cells isolated from healthy donors. This is due to the higher density of lytic granules and larger cell volume possessed by aNK cells when compared to that of donor-derived natural killer cells. We believe that our aNK cells can be produced at commercial scale as a ‘living drug’ using our proprietary manufacturing and distribution processes to adequately address select global cancer markets.

Several phase I safety studies with unmodified aNK cells have been conducted in a variety of bulky hematological cancers and solid tumors, enrolling 46 patients in a range of dose levels and schedules with encouraging evidence of single-agent activity and a durable remission, including some complete responses in liquid tumors. Based on these earlier clinical trials, we have further modified our aNK platform through virus-free molecular engineering designed to leverage additional modes of killing available to aNKs, including antibody-mediated killing, the haNK platform, and both antibody-mediated and CAR-directed antigen targeted killing, the t-haNK platform.

Antibody-Mediated Killing—the haNK Platform. We have genetically engineered our aNK cell platform using a virus-free method to overexpress high-affinity CD16 receptors, which bind to antibodies. These antibody-targeted haNK cells are designed to directly bind to IgG1-type antibodies, such as avelumab, trastuzumab, cetuximab and rituximab with the intention of enhancing the cancer-killing efficacy of these antibodies by boosting the population of competent natural killer cells that can kill cancer cells through ADCC. Antibody products are abundantly utilized to treat cancer and it is estimated that they generate over $100 billion in reported annual sales. A growing number of studies suggest that clinically meaningful responses to these antibody therapies correlate directly with the overall health of a patient's natural killer cell population and whether they express the high-affinity variant of the CD16 receptor. Currently available literature estimates that only approximately 10% to 15% of the addressable patient population eligible for antibody therapies carry high-affinity CD16 receptors. This implies that our haNK product candidate may have significant market potential as a combination therapy to potentially address a large number of patients who do not carry high-affinity CD16 receptors and, as a result, exhibit a poorer response to antibody therapies. We therefore intend to develop our haNK product candidate as a combination therapy with widely-used U.S. Food and Drug Administration, or FDA, approved antibody products such as avelumab, trastuzumab, cetuximab and rituximab. Current Good Manufacturing Practice, or cGMP, master and working cell banks of our haNK product candidate have been successfully established and will serve as our source for product for our clinical trials and, if approved, commercialization going forward. We have optimized our manufacturing process partly by designing our haNK product candidate to not require IL-2 cytokine supplementation to the growth media every few days, thereby enabling us to overcome a technically challenging and costly limitation that many other natural killer cell-based therapies face. We have also successfully established processes for large-scale production, cryopreservation and long-term storage of final dose forms, thereby optimizing production efficiencies and allowing for on-demand availability with minimal handling at the infusion sites. Our cryopreserved haNK product candidate has been cleared for clinical testing in several phase Ib/II clinical trials, including our phase II Merkel cell cancer study.

CAR-Directed Killing—the taNK Platform. We have genetically engineered our aNK platform to express CARs that target tumor-specific antigens found on the surfaces of cancers and virally infected cells. Our taNK cells are designed to bind directly to these surface antigens and induce cell death through the release of toxic granules directly into the tumor cells and release of cytokines and chemokines to recruit additional innate and adaptive immune responses, including the recruitment of cytotoxic T-cells. These tumor antigens include checkpoint ligands, such as PD-L1 and B7-H4 as well as well-established tumor proteins such as CD19, HER2 and EGFR, all of which can be targeted individually by our engineered taNK products.

Preclinical evidence has been mounting which indicates that taNK cell activation through the binding of its CAR receptors to these cancer specific proteins may be potent enough to override many of the pre-existing inhibitory signals and immunosuppressive factors present in the tumor microenvironment that may be responsible for tumor resistance.

CAR-Directed and Antibody-Mediated Killing—the t-haNK Platform. Our newest and most promising platform for the development of therapeutic product candidates is an innovative, bioengineered combination of our haNK and taNK platforms that incorporates all the features of our haNK platform together with a CAR. The resulting line of product candidates under this platform avails itself to all three modes of killing: *innate*, *antibody-mediated* and *CAR-directed killing*. These product candidates also include one or more additional expression elements such as functional cytokines, chemokines and trafficking factors, making them amongst the most versatile in our portfolio. These product candidates are intended to be combined with commercially available therapeutic antibodies to effectively target either two different epitopes of the same cancer specific protein or two entirely different cancer specific proteins. In addition to our two t-haNK product candidates, PD-L1.t-haNK, currently in phase II testing, and CD19.t-haNK, cleared to commence phase I testing, we believe a pipeline of prominent CARs for t-haNK, including HER2 and EGFR, which are nearing IND submission, and others that are advancing through clinical enabling studies, will enable us to potentially address an even broader range of cancers as part of a chemotherapy-free combination regimen.

The Nant Cancer Vaccine. The Nant Cancer Vaccine, or NCV, program is a personalized therapy regimen, which utilizes our "off-the-shelf" NK cell platform as the backbone of the regimen. NCV consists of an initial tumor-conditioning regimen followed by a molecularly-informed immunologic conditioning therapy. More specifically, NCV combines the novel delivery of metronomic, albumin-linked low-dose chemotherapy in conjunction with certain other agents, followed by a sequenced administration of tumor-associated antigen vaccines and an IL-15 superagonist fusion protein, all of which potentiate our NK cell therapy to potentially drive immunogenic cell death while avoiding the ravages of toxic high-dose chemotherapy. By inducing immunogenic cell death and enhancing a patient's innate and adaptive immune system, NCV is designed to attain a long-term, durable response in multiple cancer types with a potential for lower toxicity and improved efficacy and quality of life in comparison with current standards of care. We believe ultimately that employing our NK cell therapy in the context of NCV will be a highly effective combination for long term clinical success over available standards of care that employ maximum tolerated dose, tolerogenic cell death and immune system compromise.

Coronavirus Pandemic

In March 2020, the World Health Organization declared the novel strain of coronavirus disease (SARS-CoV-2) a pandemic. In the same month, the President of the United States declared a State of National Emergency due to the pandemic. Many jurisdictions, particularly in North America, Europe and Asia, as well as U.S. states in which we operate, including California, have adopted or continue to consider laws, rules, regulations or decrees intended to address the pandemic, including travel restrictions, closing or re-opening of non-essential businesses or restricting daily activities. However, due to the pandemic new restrictions might be imposed by various governmental authorities. For example, many communities have limited, and may continue to limit, social mobility and gatherings in response to the continued rise in coronavirus cases and fatalities in the U.S. Such restrictions and other impacts from the pandemic may have an impact on our business.

Given the unprecedented and continuously evolving nature of the pandemic, the future impact of these changes and potential changes on our company are unknown at this time. To date, we have seen no material adverse impact to our business from the pandemic. We anticipate, however, that enrollment of patients in certain studies will likely take longer than forecasted in prior SEC filings and that our clinical trials may require additional time to complete which would in turn impact the timeline in which we were previously forecasting BLA submissions of our product candidates and subsequent revenue generation. These factors have been accounted for in the company's anticipated upcoming milestones. During any such delays in our clinical trials, we will continue to incur fixed costs such as selling, general and administrative expenses and operating expenses related to our laboratory, GMP manufacturing, and office facilities.

Our office-based employees have been working from home since mid-March 2020, while ensuring essential staffing levels for our research and development operations remain in place, including maintaining key personnel in our laboratory and GMP manufacturing facilities. While we have not previously experienced or been notified of any anticipated impact amongst our third party vendors, it is likely that the pandemic and resulting mitigation efforts could have an impact in the future on our third-party suppliers who manufacture laboratory supplies required for our in-house manufacturing process, which in turn could have an impact on having sufficient clinical product supply available for our clinical trials. We have addressed this in part by ensuring that we have sufficient supplies on hand to weather interruptions in our supply chain.

There is significant uncertainty about the progression and ultimate impact of the pandemic on our business and operations. While the pandemic did not materially impact our results during the year ended December 31, 2020 outside of the Joint COVID-19 Collaboration Agreement as described above, we anticipate that it could impact our business in the short-term due to factors such as fewer patients accessing treatment for cancer.

Operating Results

To date, we have generated minimal revenue related to the non-clinical use of our cell lines and intellectual property. We have not generated any revenue from product sales. We have incurred net losses in each year since our inception and, as of December 31, 2020, we had an accumulated deficit of $754.6 million. Our net losses were $92.4 million, $65.8 million and $96.2 million for the years ended December 31, 2020, 2019 and 2018, respectively. Substantially all of our net losses resulted principally from costs incurred in connection with our ongoing clinical trials and operations, our research and development programs, and from selling, general and administrative costs associated with our operations including stock-based compensation expense.

As of December 31, 2020, we had 171 employees. Personnel of related companies who provide corporate, general and administrative, manufacturing strategy, research and development, regulatory and clinical trial strategy and other support services under our shared services agreement with NantWorks are not included in this number. For additional information, see Note 10, *Related Party Agreements*, of the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future, which may fluctuate significantly from quarter-to-quarter and year-to-year. We anticipate that our expenses will increase substantially as we:

- continue research and development, including preclinical and clinical development of our existing product candidates;
- potentially seek regulatory approval for our product candidates;
- seek to discover and develop additional product candidates;
- establish a commercialization infrastructure and scale up our manufacturing and distribution capabilities to commercialize any of our product candidates for which we may obtain regulatory approval;
- seek to comply with regulatory standards and laws;
- maintain, leverage and expand our intellectual property portfolio;

- hire clinical, manufacturing, scientific and other personnel to support our product candidates' development and future commercialization efforts;
- add operational, financial and management information systems and personnel;
- incur additional legal, accounting and other expenses in operating as a public company; and
- incur additional costs associated with our proposed merger with ImmunityBio, including a higher expense rate for the operations of the combined company if the merger closes.

We do not expect to generate any revenue from product sales unless and until we successfully complete development and obtain marketing approval for one or more of our product candidates, which we do not expect to happen for at least the next several years, if ever. Until such time that we can generate substantial revenue from product sales, if ever, we expect to finance our operating activities through a combination of equity offerings, debt financings, government or other third-party funding, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements. However, we may be unable to raise additional funds or enter into such other arrangements when needed on favorable terms or at all, which would have a negative impact on our financial condition and could force us to delay, limit, reduce or terminate our research and development programs or commercialization efforts. Failure to receive additional funding could cause us to cease operations, in part or in full.

Viracta Investment

In March 2017, we participated in a Series B convertible preferred stock financing and invested $8.5 million in Viracta Therapeutics, Inc., or Viracta, a clinical stage drug development company, which was initially recorded at cost. In May 2017, we executed an exclusive worldwide license with Viracta to develop and commercialize Viracta's proprietary histone deacetylase inhibitor drug candidate for use in combination with NK cell therapy and possibly additional therapies.

We measure our equity securities without readily determinable fair values at cost, less impairment (if any), plus or minus observable price changes from an identical or similar investment of the same issuer, with such changes recognized in the consolidated statements of operations. Some factors we may consider in the impairment analysis include the extent to which the security has been in an unrealized loss position, the change in the financial condition and near-term prospects of the issuer, as well as security and industry specific economic conditions. At December 31, 2020, our fair value assessment indicated that the recent offering of Viracta's Series E preferred shares, at a lower offering price per share than the per share carrying amount of our investment in Viracta, is a directional indicator representing an observable price change in an orderly transaction for a similar investment. On December 31, 2020, we reduced the carrying value by $1.4 million due to the observable price change, which has been included in other income and expense, net, on the consolidated statements of operations. On a cumulative basis, we have recognized a reduction in carrying value of $1.4 million. As of December 31, 2020, the carrying value of our investment in Viracta totaled $7.8 million.

For additional information, see Note 5, *Viracta Investment*, of the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report.

Collaboration Agreements

We anticipate that strategic collaborations will become an integral part of our operations, providing opportunities to leverage our partners' expertise and capabilities to further expand the potential of our technologies and product candidates. We believe we are well positioned to become a leader in cell-based immunotherapy due to our broad and vertically integrated platform and through complementary strategic partnerships.

In addition to the collaboration and license agreements discussed below, we may enter into a commercial agreement relating to an IL-15 superagonist product developed by an affiliate, and we are also pursuing supply arrangements for various investigational agents controlled by affiliates and third parties to be used in our clinical trials. These collaboration and supply agreements do not typically specify how sales will be apportioned between the parties upon successful commercialization of the product. As a result, we cannot guarantee that we will receive a percentage of the revenue that is at least proportional to the costs that we will incur in commercializing the product candidate. Furthermore, if Dr. Soon-Shiong was to cease his affiliation with us, ImmunityBio, or with NantWorks, these entities may be unwilling to continue these relationships with us on commercially reasonable terms, or at all, and as a result may impede our ability to control the supply chain for our combination therapies.

See Note 8, *Collaboration and License Agreements*, of the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report for a more detailed discussion regarding our collaboration and license agreements.

Agreements with Related Parties

Our Executive Chairman, and principal stockholder, founded and has a controlling interest in NantWorks, which is a collection of multiple companies in the healthcare and technology space. As described below, we have entered into arrangements with NantWorks, and certain affiliates of NantWorks, to facilitate the development of new genetically modified NK cells for our product pipeline. Affiliates of NantWorks are also affiliates of the company due to the common control by and/or common ownership interest of our Executive Chairman.

NantWorks

Under the NantWorks shared services agreement executed in November 2015, but effective August 2015, NantWorks provides corporate, general and administrative, manufacturing strategy, research and development, regulatory and clinical trial strategy, and other support services. We are charged for the services at cost plus reasonable allocations for indirect costs that relate to the employees providing the services. For the years ended December 31, 2020, 2019 and 2018, we recorded $2.5 million, $2.1 million and $2.8 million, respectively, in selling, general and administrative expense, and $1.5 million, $1.5 million and $3.3 million, respectively, in research and development expense under this arrangement on the consolidated statements of operations. These amounts exclude certain general and administrative expenses provided by third party vendors directly for our benefit, which have been reimbursed to NantWorks based on those vendors' invoiced amounts without markup by NantWorks.

In June 2016, we amended the existing shared services agreement with NantWorks whereby we can provide support services to NantWorks and/or any of its affiliates. For the years ended December 31, 2020, 2019 and 2018, we recorded expense reimbursements of $1.4 million, $1.2 million and $0.6 million, respectively, in selling, general and administrative expense and $1.6 million, $2.3 million and $2.6 million, respectively, in research and development expense.

In November 2015, we entered into a facility license agreement with NantWorks, which became effective in May 2015, for approximately 9,500 square feet in Culver City, California, which has been converted to a research and development laboratory and a cGMP manufacturing facility. In September 2020, we amended this agreement to extend the term of this lease through December 31, 2021, as further described in Note 9, *Commitments and Contingencies*, of the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report. Lease expense for this facility for the years ended December 31, 2020, 2019 and 2018, is recorded in research and development expense on the consolidated statements of operations and was $0.6 million, $0.6 million, and $0.2 million, respectively.

Immuno-Oncology Clinic, Inc.

Beginning in 2017, we entered into multiple agreements with Immuno-Oncology Clinic, Inc., or the Clinic (dba Chan Soon-Shiong Institutes for Medicine, in El Segundo, California), to conduct clinical trials related to certain of our product candidates. The Clinic is a related party as it is owned by one officer of NantKwest and NantWorks manages the administrative operations of the Clinic. Prior to June 30, 2019, one of the company's officers was an investigator or sub-investigator for all of the company's trials conducted at the Clinic.

In July 2019, we entered into a new agreement with the Clinic (the Clinic Agreement), which became effective on July 1, 2019. The Clinic Agreement, as amended on March 31, 2020, covers clinical trial and research related activities on a non-exclusive basis relating to our existing clinical trials, commenced prior to July 1, 2019, and prospective clinical trials and research projects. The Clinic Agreement also specifies certain services and related costs that are excluded from the Clinic Agreement. Prior to commencing any work under the Clinic Agreement, the parties have agreed to execute written work orders setting forth the terms and conditions related to specific services to be performed, including financial terms. For clinical trials that commenced prior to July 1, 2019, fees incurred for services performed after July 1, 2019 are covered under the Clinic Agreement and applied towards the below-mentioned prepayments. The Clinic Agreement allows for an automatic renewal and additional extensions beyond the initial one year term.

In consideration of the services to be performed under the Clinic Agreement, as amended on March 31, 2020, we agreed to make payments of up to $7.5 million to the Clinic, of which $3.75 million and $1.875 million were paid in July 2019 and October 2019, respectively. As amended, a conditional payment of $1.875 million shall be due and payable at such time, if any, that the payments made in July 2019 and October 2019 have been earned by the Clinic through performance of services. On a quarterly basis, our prepayment is increased by an interest credit computed in accordance with terms specified in the Clinic Agreement.

To the extent any portion of the prepayments remain unearned by the Clinic on the third anniversary of the Clinic Agreement, we may elect at our sole discretion either to (i) not extend the term of the Clinic Agreement and have the Clinic reimburse us for the total amount of any remaining unused portion of the prepayments, or (ii) extend the term of the Clinic Agreement for up to three additional one year periods, at which time the Clinic will reimburse us for the total amount of any remaining unused portion of the prepayments plus interest if reimbursement is not made within 60 days of expiration. The Clinic may terminate this agreement upon each anniversary date upon sixty (60) days prior written notice and reimbursement in full to us of any outstanding unearned balance of the prepayments, provided that any such termination by the Clinic will not apply with respect to any work orders still in effect at the time of such termination.

In July 2019, we executed a clinical trial work order under the Clinic Agreement for an open-label, phase I study of PD-L1.t-haNK for infusion in subjects with locally advanced or metastatic solid cancers. In July 2020, but effective on June 22, 2020, we and ImmunityBio executed a clinical trial work order under our existing master agreement with the Clinic for an open-label, randomized, comparative phase II study of ImmunityBio's proprietary IL-15 superagonist (N-803) and Aldoxorubicin Hydrochloride (Aldoxorubicin) and our PD-L1.t-haNK with standard-of-care chemotherapy versus standard-of-care chemotherapy for first and second line treatment of locally or advanced metastatic pancreatic cancer.

During the years ended December 31, 2020, 2019 and 2018, $0.6 million, $1.1 million, and $2.7 million, respectively, was recognized in research and development expense on the consolidated statements of operations related to clinical trial and research related activities conducted for us by the Clinic.

ImmunityBio

ImmunityBio, Inc., or ImmunityBio, is a related party, as it is controlled by our Executive Chairman and principal stockholder, Dr. Patrick Soon-Shiong.

On December 21, 2020, we entered into a merger agreement with ImmunityBio pursuant to which NantKwest and ImmunityBio agreed to combine their businesses. The proposed merger is discussed in additional detail above under Agreement and Plan of Merger with ImmunityBio, Inc.

In September 2020, we entered into a sublease agreement with Altor Bioscience Manufacturing Company, LLC, a subsidiary of ImmunityBio, whereby we leased approximately 6,901 square feet in El Segundo, California, including laboratory space and related furniture, fixtures and equipment. The agreement also includes certain non-lease components related primarily to the right to use certain common areas within the building and the related furniture and fixtures. This facility will be used to manufacture and produce clinical products for our oncology product candidate trials. The lease runs from August 2020 through July 2022, and includes an option to extend the lease for an additional one-year term through July 2023. The monthly fixed charge related to the agreement is $0.2 million, a portion of which is subject to annual increases of 3% which began in November 2020. In addition, under the agreement, we are required to pay our share of estimated property taxes and operating expenses, both of which are variable lease expenses. Lease expense for this facility is recorded in research and development expense on the consolidated statements of operations and was $0.9 million during the year ended December 31, 2020.

On August 21, 2020, we entered into a Collaboration Agreement with ImmunityBio as further described in Note 8, *Collaboration and License Agreements*, of the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report. As of December 31, 2020, the joint research activity under the Collaboration Agreement totaled $8.4 million, which has been included in research and development expense on the consolidated statements of operations. Expenses incurred during the year ended December 31, 2020 were primarily related to purchases of equipment of $5.0 million, to be utilized in the manufacture of the hAd5 COVID-19 vaccine candidate, and net program related costs of $3.4 million, after applying the eligible cost sharing under the Collaboration Agreement. Certain equipment purchases made by us during the year ended December 31, 2020, which are necessary for us to fulfil our manufacturing obligations related to the COVID-19 program, were borne solely by us. The equipment purchases do not have an alternative use and were therefore expensed as incurred within research and development expenses. Prior to the effective date of the Collaboration Agreement, COVID-19 related program costs incurred by us and ImmunityBio, including expenditures related to property, plant and equipment, were the responsibility of each party and not subject to the equal cost sharing.

In January 2020, but effective on October 1, 2019, we entered into a Cost Allocation Agreement with ImmunityBio, which (together with related work orders) is described further in Note 8, *Collaboration and License Agreements*, of the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report. During the years ended December 31, 2020 and 2019, we incurred net costs of $1.1 million and $35,700, respectively, after applying the eligible costs sharing under the Cost Allocation Agreement, which have been recognized in research and development expense on the consolidated statements of operations.

In November 2018, we entered into an agreement with Etubics Corporation, or Etubics, a subsidiary of ImmunityBio. Pursuant to this agreement we sold used laboratory equipment to Etubics for $0.3 million. In conjunction with this sale, we recognized a loss on disposal of related laboratory equipment of $0.1 million, which was included in other income, net on the consolidated statements of operations.

In June 2015, we entered into a supply agreement with ImmunityBio pursuant to which we have the right to purchase ImmunityBio's proprietary bioreactors, made according to specifications mutually agreed to with ImmunityBio. We also have the right to purchase reagents and consumables associated with such equipment from ImmunityBio. When an upfront payment is made, it is included in prepaid expenses on the consolidated balance sheets until the product is received. The agreement had an initial term of five years and renews automatically for successive one-year periods unless terminated earlier.

At December 31, 2020 and 2019, we had $3.2 million and $1.8 million, respectively, in equipment purchased from ImmunityBio pursuant to our supply agreement, which has been included in property, plant and equipment, net, on the consolidated balance sheets. During the years ended December 31, 2020, 2019 and 2018, we recorded research and development expense associated with reagents and consumables purchased from ImmunityBio pursuant to our supply agreement of $0.3 million, $0.1 million and $0.1 million, respectively, on the consolidated statements of operations.

605 Doug St, LLC

In September 2016, we entered into a lease agreement with 605 Doug St, LLC, an entity owned by our Executive Chairman and principal stockholder, for approximately 24,250 square feet in El Segundo, California, which has been converted to a research and development laboratory and a cGMP laboratory manufacturing facility. The lease runs from July 2016 through July 2023. We have the option to extend the lease for an additional three-year term through July 2026. The monthly rent is $0.1 million with annual increases of 3% beginning in July 2017. Lease expense for this facility for the years ended December 31, 2020, 2019 and 2018, is recorded in research and development expense on the consolidated statements of operations and was $0.9 million, $0.9 million and $0.2 million, respectively.

NantBio, Inc.

In August 2018, NantBio, Inc., or NantBio, assigned an agreement to us for the use of a third-party research facility, which provides us with the exclusive right to use and access to a portion of the third party's laboratory and vivarium premises. NantBio is a related party as it is an affiliate of NantWorks. In conjunction with the assignment, we reimbursed NantBio for upfront payments which it had made to the third party of $0.9 million, and paid $0.5 million directly to the third party for an aggregate value of $1.4 million. The assigned agreement is for a term of ten years and expires in June 2027. The agreement may be terminated by us at any time, with or without cause. In case of termination of the agreement, the third party will reimburse us for a pro-rata amount based upon the passage of time.

In March 2016, NantBio and the National Cancer Institute entered into a cooperative research and development agreement. The initial five-year agreement covers NantBio and its affiliates, including us. Under the agreement, the parties are collaborating on the preclinical and clinical development of proprietary recombinant natural killer cells and monoclonal antibodies in monotherapy and in combination immunotherapies. We benefited from the preclinical and clinical research conducted during the first four years under this agreement. In each of the contractual years under the agreement we paid $0.6 million to the National Cancer Institute as a prepayment for services under the agreement. We recognize research and development expense related to this agreement ratably over a 12-month period for each funding year and recorded $0.6 million of expense related to this agreement in each of the years ended December 31, 2020, 2019 and 2018.

NantHealth Labs, Inc.

In March 2018, we entered into an agreement with NantHealth Labs, Inc., or NantHealth Labs, to obtain blood-based tumor profiling services. NantHealth Labs is a related party, as it is a wholly owned subsidiary of NantHealth, Inc., a majority owned subsidiary of NantWorks. We are obligated to pay NantHealth Labs fixed, per-patient fees. The agreement has an initial term of five years and renews automatically for successive one-year periods, unless terminated earlier. During the years ended December 31, 2019 and 2018, $10,000 and $0.3 million, respectively, has been recognized in research and development expense on the consolidated statements of operations. There were no expenses associated with this agreement during the year ended December 31, 2020.

Components of our Results of Operations

Revenue

To date, we have derived substantially all of our revenue from non-exclusive license agreements with several pharmaceutical and biotechnology companies granting them the right to use our cell lines and intellectual property for non-clinical use. These agreements generally include upfront fees and annual research license fees for such use, as well as commercial license fees for sales of our licensee's products developed or manufactured using our intellectual property and cell lines. Our license agreements may also include milestone payments, although to date, we have not generated any revenue from milestone payments. To date, we have generated minimal revenue related to the non-clinical use of our cell lines and intellectual property. We have no products approved for commercial sale and have not generated any revenue from product sales. If we fail to complete the development of our product candidates in a timely manner or fail to obtain regulatory approval for them, we may never be able to generate substantial future revenue.

Operating Expenses

We classify our operating expenses into research and development and selling, general and administrative expenses. Personnel costs, including salaries, benefits, bonuses, and stock-based compensation expense comprise a significant component of our research and development and selling, general and administrative expense categories. We allocate expenses associated with our facilities and information technology costs between these two categories based on the nature of each cost.

Research and Development

Research and development expense consists of expenses incurred while performing research and development activities to discover and develop our product candidates, including collaborative arrangements. This includes conducting preclinical studies and clinical trials, manufacturing development efforts and activities related to regulatory filings for product candidates. We recognize research and development expenses as they are incurred. Our research and development expense primarily consists of:

- clinical trial and regulatory-related costs;
- expenses incurred under agreements with investigative sites and consultants that conduct our clinical trials;
- expenses incurred under collaborative agreements;
- manufacturing and testing costs and related supplies and materials;
- employee-related expenses, including salaries, benefits, travel and stock-based compensation; and
- facility expenses dedicated to research and development.

We typically use our employee, consultant and infrastructure resources across our development programs. We track outsourced development costs by product candidate or development program, but we do not allocate personnel costs, other internal costs or external consultant costs to specific product candidates or development programs.

Substantially all of our research and development expenses to date have been incurred in connection with our product candidates. We expect our research and development expenses to continue to increase significantly for the foreseeable future as we advance our product candidates through clinical development, including the conduct of our ongoing and any future clinical trials as well as product candidates pursued as part of our collaboration efforts. The process of conducting clinical trials necessary to obtain regulatory approval is costly and time consuming. The successful development of product candidates is highly uncertain. At this time, we cannot reasonably estimate the nature, timing or costs required to complete the remaining development of any product candidates. This is due to the numerous risks and uncertainties associated with the development of product candidates as discussed in greater detail in Part I, Item 1A, "*Risk Factors*" of this Annual Report.

The costs of clinical trials may vary significantly over the life of a project owing to, but not limited to, the following:

- per patient trial costs;
- the number of sites included in the clinical trials;
- the countries in which the clinical trials are conducted;
- the length of time required to enroll eligible patients;
- the number of patients that participate in the clinical trials;
- the number of doses that patients receive;

- the cost of comparative agents used in clinical trials;
- the drop-out or discontinuation rates of patients;
- potential additional safety monitoring or other studies requested by regulatory agencies;
- the duration of patient follow-up; and
- the efficacy and safety profile of the product candidate.

We do not expect any of our product candidates to be commercially available for at least the next several years, if ever.

In addition, we expect our research and development expenses to continue to increase significantly for the foreseeable future as we advance our product candidates through clinical development and conduct our ongoing and planned clinical trials.

Selling, General and Administrative

Selling, general and administrative expense consists primarily of salaries and personnel-related costs, including employee benefits and any stock-based compensation, for employees performing functions other than research and development. This includes personnel in executive, finance, human resources, information technology, legal, and administrative support functions. Other selling, general and administrative expenses include facility-related costs not otherwise allocated to research and development expense, professional fees for auditing, tax and legal services, advertising costs, expenses associated with strategic business transactions and business development efforts, obtaining and maintaining patents, consulting costs, royalties and licensing costs, and costs of our information systems.

We expect that our selling, general and administrative expenses for the year ended December 31, 2021 will increase as compared to the year ended December 31, 2020. We have incurred and expect that we will continue to incur in the future, additional costs associated with operating as a public company, including costs to comply with stock exchange listing and SEC requirements, future funding efforts, corporate governance, internal controls, investor relations, disclosure and similar requirements applicable to public companies. Additionally, if and when we believe that a regulatory approval of a product candidate appears likely, we expect to incur significant increases in our selling, general and administrative expenses relating to the sales and marketing of the approved product candidate. Furthermore, we expect to continue to incur additional costs associated with our proposed merger with ImmunityBio and the operations of the combined company after closing.

Other Income and Expense

Other income and expense consists primarily of income from our investments in marketable debt securities, sublease rental income, unrealized losses related to observable price changes associated with our equity investment in Viracta, and foreign currency gains and losses.

Income Taxes

Income taxes consists of U.S. federal and state income taxes and foreign income taxes associated with our Korean subsidiary. To date, we have not been required to pay U.S. federal income taxes because of our current and accumulated net operating losses. Our income tax expense to date primarily relates to minimum income taxes in the State of California. Our income tax benefit to date relates primarily to the amortization of deferred tax liabilities at our Korean subsidiary.

Results of Operations

Comparison of the years ended December 31, 2020, 2019 and 2018 (in thousands):

	For the Year Ended December 31,			Change	
	2020	2019	2018	2020 vs. 2019	2019 vs. 2018
Revenue	$ 111	$ 43	$ 47	$ 68	$ (4)
Operating expenses:					
Research and development (including amounts with related parties)	64,483	49,785	55,718	14,698	(5,933)
Selling, general and administrative (including amounts with related parties)	27,254	18,065	42,718	9,189	(24,653)
Total operating expenses	91,737	67,850	98,436	23,887	(30,586)
Loss from operations	(91,626)	(67,807)	(98,389)	(23,819)	30,582
Other income (expense):					
Investment income, net	366	1,642	1,857	(1,276)	(215)
Interest expense (including amounts with related parties)	(41)	(19)	(433)	(22)	414
Other (expense) income, net (including amounts with related parties)	(1,077)	298	236	(1,375)	62
Total other (expense) income	(752)	1,921	1,660	(2,673)	261
Loss before income taxes	(92,378)	(65,886)	(96,729)	(26,492)	30,843
Income tax (expense) benefit	(5)	97	503	(102)	(406)
Net loss	$ (92,383)	$ (65,789)	$ (96,226)	$ (26,594)	$ 30,437

Revenue

The change in revenue was minimal during the comparative periods and consisted of license fees and royalties.

Research and Development

Research and development expense increased $14.7 million during the year ended December 31, 2020, as compared to the year ended December 31, 2019. The increase in research and development expense was primarily attributable to $8.4 million of expenses related to our Joint COVID-19 Collaboration Agreement with ImmunityBio, including the acquisition of $5.0 million of equipment to be utilized in the manufacture of the hAd5 COVID-19 vaccine candidate, and net program related costs of $3.4 million, after applying the eligible cost sharing under the Collaboration Agreement. The equipment purchases do not have an alternative use and were therefore expensed as incurred within research and development expenses. In addition, research and development expenses increased by $4.0 million due to higher laboratory and supplies expense mainly driven by our COVID-19 programs, including additional expenses related to readying our new El Segundo manufacturing facility leased during the third quarter of 2020. We also experienced a $3.2 million increase related to higher lease and facility operating costs, including an increase of $1.6 million related to our new El Segundo facility, and an increase of $1.6 million for other manufacturing and facility related expenses including higher depreciation expense and higher facilities and equipment maintenance costs. Our new El Segundo facility is used to manufacture and produce clinical products for our oncology product candidate trials. In addition, we incurred higher shared services costs of $0.6 million driven mainly by manufacturing services, and higher third party research agreement costs of $0.5 million. These increases in research and development expenses were partially offset by a decrease of $0.9 million related to impairment of laboratory equipment during the year ended December 31, 2019, a decrease of $0.6 million in amortization expense due to the underlying asset being fully amortized as of March 2019, and a decrease of $0.5 million in clinical trial costs mainly driven by decreased activity.

We expect our research and development expense to increase significantly for the foreseeable future as we advance our product candidates, including collaboration product candidates, through clinical development and conduct our ongoing and planned clinical trials and those of ImmunityBio if the proposed merger closes.

Research and development expense decreased $5.9 million for the year ended December 31, 2019, as compared to the year ended December 31, 2018. The decrease in research and development expense was primarily attributable to decreases of $4.7 million in compensation and related expenses due to decreased staff and to fees for shared services rendered under our shared services agreement with NantWorks as a result of less clinical trial support activities, $2.0 million for pre-clinical and clinical trial costs mainly driven by decreased activity related to investigator sponsored trials and research agreements, and $1.7 million of intangible asset amortization expense due to the underlying asset being fully amortized as of March 2019. These decreases were partially offset by a net increase of $1.6 million for laboratory and manufacturing facility related expenses, including increases related to third-party facility and manufacturing process validation and qualification costs, depreciation expense, and lease expense, mainly driven and associated with our El Segundo cGMP facility, and decreases related to third party testing services and laboratory supplies. In addition, we recorded $0.9 million of expense related to impairment of laboratory equipment.

Selling, General and Administrative

Selling, general and administrative expense increased $9.2 million during the year ended December 31, 2020, as compared to the year ended December 31, 2019. The increase in selling, general and administrative expense was primarily attributable to higher financial advisory, legal and other professional fees of $7.1 million driven primarily by strategic initiatives, including our proposed merger with ImmunityBio, as well as by higher costs associated with contracting, trademark, and patent related legal fees and other matters. Selling, general and administrative expense also increased by $1.0 million due to higher compensation and related expenses, and higher insurance expense of $1.0 million which was driven by increases in directors' and officers' insurance rates. In addition, we incurred higher shared services costs of $0.5 million driven mainly by legal and information technology related activities, an increase of $0.4 million due to higher software license fees, and higher corporate relations costs of $0.2 million driven by an increase in corporate communications, including press releases. These increases in selling, general and administrative expense were offset in part by decreases in travel and tradeshow related expenses of $0.6 million and $0.4 million, respectively, due mainly to a decline in activity as a result of the ongoing COVID-19 pandemic.

Selling, general and administrative expense decreased $24.7 million during the year ended December 31, 2019, as compared to the year ended December 31, 2018. The decrease in selling, general and administrative expense was primarily attributable to a decrease of $20.8 million in stock-based compensation expense, which was primarily driven by a decrease due to vesting completed in July 2018 and March 2019 related to service-based equity awards issued to our Executive Chairman in 2015. In addition, selling, general and administrative expense decreased by $2.3 million due to lower costs associated with litigation, $1.1 million due to decreased activity in shared services provided by NantWorks, and $0.6 million due to lower headcount related expenses. These decreases in selling, general and administrative expense were partially offset by a $0.2 million increase in other administrative costs.

Other Income and Expense

Other income decreased by $2.7 million during the year ended December 31, 2020, as compared to the year ended December 31, 2019. The decrease in other income resulted primarily from a $1.4 million unrealized loss attributable to an observable price change associated with our equity investment in Viracta, and a decrease of $1.3 million in investment income associated with our investments in marketable debt securities. Investment income from our marketable debt securities decreased due primarily to a decline in the average yield on our marketable debt securities which was driven in part by shorter contractual securities lives and broader economic and market conditions.

Other income increased by $0.3 million during the year ended December 31, 2019, as compared to the year ended December 31, 2018. The increase in other income resulted primarily from lower interest expense of $0.4 million, offset in part by a decrease in investment income related to use of our investments for operations of $0.2 million.

Income Taxes

The change in income taxes was immaterial during the year ended December 31, 2020, as compared to the year ended December 31, 2019.

Income tax benefit decreased by $0.4 million for the year ended December 31, 2019, as compared to the year ended December 31, 2018. The decrease was due primarily to lower income tax benefits related to losses at our Korean subsidiary.

Liquidity and Capital Resources

Sources of Liquidity

Our principal sources of liquidity are our existing cash, cash equivalents, and marketable debt securities. We have historically invested our cash primarily in investment grade short- to intermediate-term corporate debt securities, commercial paper, government sponsored securities, U.S. treasury securities, and foreign government bonds and classify these investments as available-for-sale. Certain of these investments are subject to general credit, liquidity and other market risks. The general condition of the financial markets and the economy may increase those risks and may affect the value and liquidity of investments and restrict our ability to access the capital markets.

On June 29, 2020, the company closed an underwritten public offering of an aggregate of 8,521,500 shares of common stock, which included 4,811,500 shares issued to the public at a price of $9.50 per share (which included 1,111,500 shares sold to the public upon full exercise of the underwriters' option to purchase additional shares at a public offering price of $9.50 per share), less underwriting discounts and commissions, and 3,710,000 shares issued to our Executive Chairman and principal stockholder, Dr. Patrick Soon-Shiong, at a price of $12.12 per share, less underwriting discounts and commissions. All of the shares were offered by the company. Including the underwriters' option exercise, the aggregate gross proceeds from the offering were $90.7 million, before deducting underwriting discounts, commissions and other offering expenses of $4.4 million.

As of December 31, 2020, we had cash and cash equivalents, and restricted cash of $11.6 million compared to $15.7 million as of December 31, 2019. The decrease was attributable to cash used in operating and investing activities of $70.5 million and $20.6 million, respectively, partially offset cash flows provided by financing activities of $87.0 million.

Investments in marketable debt securities were $54.8 million as of December 31, 2020, all of which were short-term investments, as compared to $37.6 million as of December 31, 2019, of which $36.1 million were short-term investments.

Cash Flows

The following table sets forth our primary sources and uses of cash for the years ended December 31, 2020, 2019 and 2018 (in thousands):

	For the Year Ended December 31,		
	2020	2019	2018
Cash provided by (used in):			
Operating activities	$ (70,453)	$ (61,362)	$ (63,381)
Investing activities	(20,589)	21,456	57,101
Financing activities	86,975	38,593	(771)
Net decrease in cash, cash equivalents and restricted cash	$ (4,067)	$ (1,313)	$ (7,051)

Operating Activities

For the year ended December 31, 2020, our net cash used in operating activities of $70.5 million consisted of a net loss of $92.4 million, partially offset by $16.7 million in adjustments for non-cash items, and $5.3 million of cash provided by net working capital changes. Adjustments for non-cash items primarily consisted of $9.1 million in depreciation and amortization, $3.4 million of non-cash lease expense related to operating lease right-of-use assets, $2.1 million in stock compensation expense, $1.4 million of unrealized losses attributable to an observable price change associated with our equity investment in Viracta, and $0.8 million in amortization of premiums on marketable debt securities, reduced by $0.3 million in non-cash interest. The change in net working capital consisted primarily of increases in amounts due to related parties of $5.0 million, accrued expenses of $3.7 million, and accounts payable of $2.1 million, partially offset by decreases related to operating lease liabilities of $3.9 million, other current assets of $1.3 million, and other long-term assets of $0.3 million. The $9.1 million increase in cash used in operating activities, as compared to the year ended December 31, 2019, was primarily due to costs incurred in ongoing clinical trials, ramp-up of manufacturing, and Joint COVID-19 Collaboration Agreement related activities as well as costs associated with our proposed merger with ImmunityBio.

For the year ended December 31, 2019, our net cash used in operating activities of $61.4 million consisted of a net loss of $65.8 million, and $10.9 million of cash used by net working capital changes, partially offset by $15.4 million in adjustments for non-cash items. Adjustments for non-cash items primarily consisted of $9.0 million in depreciation and amortization, $2.6 million in stock compensation expense, $2.6 million of non-cash lease expense related to operating lease right-of-use assets, $0.9 million of impairment related to laboratory equipment, and $0.2 million in non-cash interest. The decrease in net working capital consisted primarily of decreases related to accrued expenses of $12.0 million, other long-term assets of $4.0 million, operating lease liabilities of $3.1 million, and due to related parties of $1.1 million, partially offset by an increase related to prepaid expenses and other current assets of $9.3 million. The $2.0 million decrease in cash used in operating activities, as compared to the year ended December 31, 2018, was primarily due to lower laboratory and manufacturing related costs and lower headcount and compensation costs including shared services, partially offset by higher clinical trial and related operational costs.

For the year ended December 31, 2018, our net cash used in operating activities of $63.4 million consisted of a net loss of $96.2 million, offset by $33.4 million in adjustments for non-cash items, primarily attributable to $23.4 million in stock-based compensation expense, as well as research and development and selling, general and administrative expenses, and a $0.6 million decrease of cash related to changes in working capital. Adjustments for non-cash items primarily consisted of the $23.4 million in stock-based compensation expense, $9.6 million in depreciation and amortization, $0.5 million in amortization of premiums on marketable debt securities, $0.3 million in non-cash interest related to our marketable debt securities, and $0.2 million related to loss on disposal of assets, reduced by $0.5 million of deferred income tax benefit. Changes in net working capital consisted primarily of increases related to prepaid and other current assets of $9.8 million, other assets of $1.2 million, accounts payable of $1.1 million, due to related parties of $0.7 million, and deferred rent of $0.5 million, partially offset by an increase in accrued expenses of $12.7 million.

Investing Activities

For the year ended December 31, 2020, net cash used in investing activities was $20.6 million, which included cash outflows of $91.6 million for purchases of marketable debt securities, and $2.6 million for purchases of property, plant and equipment, partially offset by cash inflows of $65.4 million and $8.3 million from maturities and sales of marketable debt securities, respectively. Our investments in property, plant and equipment for the year ended December 31, 2020, related primarily to acquisitions of equipment which will be used to manufacture our ceNK and MSC product candidates.

For the year ended December 31, 2019, net cash provided by investing activities was $21.5 million, which was primarily attributable to cash inflows of $109.7 million and $2.5 million from maturities and sales of marketable debt securities, respectively, partially offset by cash outflows of $86.6 million for purchases of marketable debt securities, and $4.2 million for purchases of property, plant and equipment. During the year ended December 31, 2019, our purchases of marketable debt securities included our investment of $39.2 million of cash proceeds received in March 2019 from the exercise of stock options and warrants, together with reinvestment of excess cash related to maturing securities. Our investments in property, plant and equipment during the year ended December 31, 2019 mainly related to our El Segundo, California, facilities.

For the year ended December 31, 2018, net cash provided by investing activities was $57.1 million, which was primarily attributable to cash inflows of $165.3 million from maturities of marketable debt securities and $0.4 million from sales of laboratory equipment, partially offset by cash outflows of $94.8 million for purchases of marketable debt securities, driven by the reinvestment of excess cash resources, $13.1 million for purchases of property, plant and equipment, mainly related to our laboratory and cGMP build out in El Segundo, California, and $0.7 million for purchases of Viracta convertible notes.

Financing Activities

For the year ended December 31, 2020, net cash provided by financing activities was $87.0 million, which consisted of proceeds from the issuance of 8,521,500 shares of common stock, net of issuance cost paid, of $86.3 million, and proceeds of $1.2 million resulting from exercises of stock options. Net cash used in financing activities for the year ended December 31, 2020, consisted of $0.5 million related to net share settlement of vested RSUs for payment of employee payroll taxes.

For the year ended December 31, 2019, net cash provided by financing activities was $38.6 million, which primarily consisted of cash proceeds of $35.2 million and $4.1 million resulting from the exercise of warrants and stock options, respectively, by our Executive Chairman during March 2019, partially offset by $0.5 million used for stock repurchases, including commissions, and $0.1 million related to net share settlement of vested RSUs and option exercises for payment of employee payroll taxes.

For the year ended December 31, 2018, net cash used in financing activities was $0.8 million, which primarily related to $0.5 million of principal payments on our financing obligations, $0.2 million used for stock repurchases, and $0.1 million in net share settlement of exercised warrants and vesting of RSUs for payment of employee payroll taxes, partially offset by $0.1 million in proceeds from the exercise of warrants.

Future Funding Requirements

To date, we have generated minimal revenue related to the non-clinical use of our cell lines and intellectual property, and we have no products approved for commercial sale and have not generated any revenue from product sales. We do not expect to generate significant revenue unless and until we obtain regulatory approval of and commercialize any of our product candidates, and we do not know when, or if, this will occur. In addition, we expect our expenses to significantly increase in connection with our ongoing development activities, particularly as we continue the research, development and clinical trials of, and seek regulatory approval for, our product candidates. We have also incurred and expect that we will continue to incur in the future additional costs associated with operating as a public company as well as costs related to future fundraising efforts and our proposed merger with ImmunityBio. In addition, subject to obtaining regulatory approval of our product candidates, we expect to incur significant commercialization expenses for product sales, marketing, manufacturing and distribution. We anticipate that we will need substantial additional funding in connection with our continuing operations. We expect that our expenses will increase substantially if and as we:

- continue research and development, including preclinical and clinical development of our existing product candidates including those related to our Joint CVOID-19 Collaboration agreement with ImmunityBio;
- potentially seek regulatory approval for our product candidates;
- seek to discover and develop additional product candidates;
- establish a commercialization infrastructure and scale up our manufacturing and distribution capabilities to commercialize any of our product candidates for which we may obtain regulatory approval;
- seek to comply with regulatory standards and laws;
- maintain, leverage and expand our intellectual property portfolio;
- hire clinical, manufacturing, scientific and other personnel to support our product candidates' development and future commercialization efforts;
- add operational, financial and management information systems and personnel;
- incur additional legal, accounting and other expenses in operating as a public company; and
- complete our proposed merger with ImmunityBio.

As a result of continuing anticipated operating cash outflows, we believe that substantial doubt exists regarding our ability to continue as a going concern without additional funding or financial support. However, we believe our existing cash, cash equivalents, and investments in marketable debt securities, and our ability to borrow from affiliated entities, will be sufficient to fund operations through at least the next 12 months following the issuance date of the financial statements based primarily upon our Executive Chairman's intent and ability to support our operations with additional funds, including loans from affiliated entities, as required, which we believe alleviates such doubt. We have based this estimate on assumptions that may prove to be incorrect, and we may use our available capital resources sooner than we currently expect. The successful development of any product candidate is highly uncertain. Due to the numerous risks and uncertainties associated with the development and commercialization of our product candidates, if approved, we are unable to estimate the amounts of increased capital outlays and operating expenses associated with completing the development of our product candidates.

Our future capital requirements will depend on many factors, including:

- the timing of, and the costs involved in, preclinical and clinical development and obtaining any regulatory approvals for our product candidates;
- the impacts of COVID-19 on our operations;
- the costs of manufacturing, distributing and processing our product candidates;
- the number and characteristics of any other product candidates we develop or acquire;
- our ability to establish and maintain strategic collaborations, licensing or other commercialization arrangements and the terms and timing of such arrangements including our arrangements with ImmunityBio and its subsidiaries and Viracta;
- the degree and rate of market acceptance of any approved products;
- the emergence, approval, availability, perceived advantages, relative cost, relative safety and relative efficacy of other products or treatments;
- the expenses needed to attract and retain skilled personnel;
- the costs associated with being a public company;

- the costs associated with our proposed merger with ImmunityBio and costs of operations for the combined company if the merger closes;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing intellectual property claims, including litigation costs and the outcome of such litigation;
- the timing, receipt and amount of sales of, or royalties on, any approved products; and
- any product liability or other lawsuits related to our product candidates or the company.

Because all of our product candidates are in various stages of preclinical and clinical development and the outcome of these efforts is uncertain, we cannot estimate the actual amounts necessary to successfully complete the development and commercialization of any of our product candidates or whether, or when, we may achieve profitability. Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances and/or licensing arrangements. We do not have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic alliances or licensing arrangements with pharmaceutical partners, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates, or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market our product candidates that we would otherwise prefer to develop and market ourselves.

Contractual Obligations, Commitments and Contingencies

Contractual Obligations and Commitments

See Note 9, *Commitments and Contingencies*, *Contractual Obligations – Leases*, *and* Note 10, *Related Party Agreements*, of the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report.

Contingencies

From time to time, we may be involved in various claims and legal proceedings relating to claims arising out of our operations. We are not currently a party to any legal proceedings that, in the opinion of our management, are likely to have a material adverse effect on our business. Regardless of outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

Off-Balance Sheet Arrangements

During the periods presented, we did not have, nor do we currently have, any off-balance sheet arrangements as defined under SEC rules.

Critical Accounting Policies, Significant Judgements and Use of Estimates

Management's discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which are prepared in accordance with U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets and liabilities, related disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenues and expenses during the reporting period. We continually evaluate our estimates and judgments, the most critical of which are those related to valuation of equity-based awards, deferred income taxes and related valuation allowances, preclinical and clinical trial accruals, impairment assessments, the measurement of right-of-use assets and lease liabilities, useful lives of long-lived assets, loss contingencies, fair value measurements, and the assessment of the company's ability to fund its operations for at least the next twelve months from the date of issuance of these financial statements. We base our estimates and judgments on historical experience and on various other market-specific and relevant assumptions that we believe to be reasonable under the circumstances. Materially different results can occur as circumstances change and additional information becomes known, such as the economic considerations related to the impact that the ongoing coronavirus pandemic could have on our significant accounting estimates.

The following is not intended to be a comprehensive discussion of all of our significant accounting policies. See the notes accompanying our financial statements appearing in this Annual Report for a summary of all of our significant accounting policies and other disclosures required by U.S. GAAP.

Transactions with Related Parties

As discussed in additional detail above, we have various agreements with related parties. Some are billed and settled in cash monthly. Others are billed quarterly and settled in cash the following month. Monthly accruals are made for all quarterly billing arrangements.

Collaboration Arrangements

We analyze our collaboration arrangements to assess whether they are within the scope of Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 808, *Collaborative Arrangements*, or ASC 808. A collaborative arrangement is a contractual arrangement that involves a joint operating activity. These arrangements involve two or more parties who are active participants in the activity, and exposed to significant risks and rewards dependent on the commercial success of the activity. This assessment is performed throughout the life of the arrangement based on changes in the responsibilities of all parties in the arrangement. To the extent the collaboration agreement is within the scope of ASC 808, we also assess whether the arrangement contains multiple elements that are within the scope of other accounting literature. If we conclude that some or all aspects of the agreement are distinct and represent a transaction with a customer, we account for those aspects of the arrangement within the scope of FASB ASC Topic 606, *Revenue from Contracts with Customers*, or ASC 606. Amounts that are owed to collaboration partners that are within the scope of ASC 808 are recognized as an offset to research and development expenses as such amounts are incurred by the collaboration partner. Where amounts owed to a collaboration partner exceed our collaboration expenses in each quarterly period, such amounts are classified as research and development expense.

Our collaboration arrangements require us to acquire certain equipment for exclusive use in the joint operating activities. These equipment purchases do not have an alternative use and are therefore expensed as incurred within research and development expenses.

Our collaboration arrangements are further discussed within Note 8, *Collaboration and License Agreements*, of the “Notes to Consolidated Financial Statements” included in Part II, Item 8 of this Annual Report.

Preclinical and Clinical Trial Accruals

As part of the process of preparing the financial statements, we are required to estimate expenses resulting from obligations under contracts with vendors, clinical research organizations and consultants. The financial terms of these contracts vary and may result in payment flows that do not match the periods over which materials or services are provided under such contracts.

We estimate clinical trial and research agreement related expenses based on the services performed, pursuant to contracts with research institutions and clinical research organizations and other vendors that conduct clinical trials and research on our behalf. In accruing clinical and research related fees, we estimate the time period over which services will be performed and activity expended in each period. If the actual timing of the performance of services or the level of effort varies from the estimate, we will adjust the accrual accordingly. Payments made under these arrangements in advance of the receipt of the related services are recorded as prepaid expenses until the services are rendered.

Research and Development Costs

Major components of research and development costs include cash compensation and other personnel-related expenses, stock-based compensation, depreciation and amortization expense on research and development property and equipment and intangible assets, costs of preclinical studies, clinical trials and related clinical manufacturing, costs of drug development, costs of materials and supplies, facilities cost, overhead costs, regulatory and compliance costs, and fees paid to consultants and other entities that conduct certain research and development activities on our behalf. Costs incurred in research and development are expensed as incurred.

Included in research and development costs are clinical trial and research expenses based on the services performed pursuant to contracts with research institutions and clinical research organizations and other vendors that conduct clinical trials and research on our behalf. We record accruals for estimated costs under these contracts. When evaluating the adequacy of the accrued liabilities, we analyze the progress of the studies or clinical trials, including the phase or completion of events, invoices received, contracted costs and purchase orders. Significant judgments and estimates are made in determining the accrued balances at the end of any reporting period based on the facts and circumstances known at that time. Although we do not expect the estimates to be materially different from the amounts actually incurred, if the estimates of the status and timing of services performed differs from the actual status and timing of services performed, we may report amounts that are too high or too low in any particular period. Actual results could differ from our estimates.

Cash, Cash Equivalents and Restricted Cash

Cash equivalents include highly liquid investments with an original maturity of three months or less from the date of purchase.

Restricted cash includes a certificate of deposit held as a substitute letter of credit for one of our leased properties. This certificate of deposit is included in other assets on the consolidated balance sheets as the landlord is the beneficiary of the account and we are not able to access the funds during the term of the lease.

We minimize the credit risk associated with cash and cash equivalents by periodically evaluating the credit quality of our primary financial institutions. While we maintain cash deposits in FDIC insured financial institutions in excess of federally insured limits, management believes we are not exposed to significant credit risk due to the financial position of the depository institutions in which those deposits are held. We have not experienced any losses on such accounts.

Marketable Debt Securities

We invest our excess funds in investment grade short- to intermediate-term corporate debt securities, government sponsored securities, and foreign government bonds and classify these investments as available-for-sale. Marketable debt securities with remaining maturities of 12 months or less are classified as short-term and marketable debt securities with remaining maturities greater than 12 months are classified as long-term. All marketable debt securities are reported at fair value and any unrealized gains and losses are reported as a component of accumulated other comprehensive loss on the consolidated statements of stockholders' equity, with the exception of unrealized losses believed to be other-than-temporary, which are recorded in investment income, net, on the consolidated statements of operations. Realized gains and losses are included in investment income, net, on the consolidated statements of operations. Realized gains and losses from sales of securities and the amounts, net of tax, reclassified out of accumulated other comprehensive loss, if any, are determined on a specific identification basis.

We periodically evaluate whether declines in fair values of our investments below their book value are other-than-temporary. This evaluation consists of several qualitative and quantitative factors regarding the severity and duration of the unrealized loss, as well as our ability and intent to hold the investment until a forecasted recovery occurs. Additionally, we assess whether or not we have plans to sell the security or whether or not it is more likely than not we will be required to sell any investment before recovery of its amortized cost basis. Factors considered include quoted market prices, recent financial results and operating trends, implied values from any recent transactions or offers of investee securities, credit quality of debt instrument issuers, other publicly available information that may affect the value of our investments, duration and severity of the decline in value, and our strategy and intentions for holding the investment. There were no other-than-temporary impairments recorded in the years ended December 31, 2020, 2019 and 2018.

Contingencies

We record accruals for loss contingencies to the extent that we conclude it is probable that a liability has been incurred and the amount of the related loss can be reasonably estimated. We evaluate, on a quarterly basis, developments in legal proceedings and other matters that could cause a change in the potential amount of the liability recorded or of the range of potential losses disclosed. Moreover, we record gain contingencies only when they are realizable, and the amount is known. Additionally, we record our rights to insurance recoveries, limited to the extent of incurred or probable losses, as a receivable when such recoveries have been agreed to with our third-party insurers and when receipt is deemed probable. This includes instances when our third-party insurers have agreed to pay, on our behalf, certain legal defense costs and settlement amounts directly to applicable law firms and a settlement fund.

Investment in Equity Securities

We own non-marketable equity securities that are accounted for using the measurement alternative under ASC 321 because the preferred stock held by us is not considered in-substance common stock and such preferred stock does not have a readily determinable fair value. All investments are reviewed for possible impairment on a regular basis. If an investment's fair value is determined to be less than its net carrying value, the investment is written down to its fair value. Such an evaluation is judgmental and dependent on specific facts and circumstances. Factors considered in determining whether an impairment indicator is present include: the investees' earnings performance and clinical trial performance, change in the investees' industry and geographic area in which it operates, offers to purchase or sell the security for a price less than the cost of the investment, issues that raise concerns about the investee's ability to continue as a going concern, and any other information that we may be aware of related to the investment. Factors considered in determining whether an observable price change has occurred include the price at which the investee issues equity instruments similar to those of our investment and the rights and preferences of those equity instruments compared to ours.

Fair Value of Financial Instruments

We record our available-for-sale investments at fair value. At December 31, 2020, our cash equivalents and investments in marketable debt securities totaled $54.8 million. FASB ASC Topic 820, *Fair Value Measurements and Disclosures*, or ASC 820, establishes three levels of inputs that may be used to measure fair value. Each level of input represents varying degrees of subjectivity and difficulty involved in determining fair value. Valuations using Level 1 and 2 inputs are generally based on price quotations and other observable inputs in active markets and do not require significant management judgment or estimation. We utilize a third-party pricing service to assist us in obtaining fair value pricing for these investments. While pricing for these securities is based on proprietary models, the inputs used are based on observable market information; therefore, we have classified our inputs as Level 1 and Level 2. For additional information, see Note 7, *Fair Value Measurements*, of the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report.

Impairments

Long-lived assets include property, plant and equipment and intangible assets. We review long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability is measured by comparison of the carrying amount to the future net cash flows that the assets are expected to generate. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the projected undiscounted future cash flows arising from the assets using a discount rate determined by management to be commensurate with the risk inherent to our current business model.

During the year ended December 31, 2019, we determined that certain bioreactor laboratory equipment could no longer be utilized in the production process. As a result, we recorded an impairment charge totaling $0.9 million, which is included in research and development expense on the consolidated statements of operations. There were no impairment losses recognized during the years ended December 31, 2020 and 2018.

Lease Obligations

On January 1, 2019, we adopted FASB ASC Topic 842, *Leases*, or ASC 842. For contracts entered into on or after the effective date, we determine if an arrangement is, or contains, a lease at lease inception. Our assessment is based on: (1) whether the contract involves the use of a distinct identified asset; (2) whether we obtain the right to substantially all of the economic benefit from the use of the asset throughout the period; and (3) whether we have the right to direct the use of the asset. At inception of a lease, we allocate the consideration in the contract to each lease component based on its relative stand-alone price to determine the lease payments. Leases entered into prior to January 1, 2019, which were accounted for under ASC 840, *Leases*, were not reassessed as we elected the package of practical expedients permitted under the transition guidance within ASC 842, which among other things, allowed us to carry forward the historical lease classification. We determine the lease term by assuming the exercise of renewal options that are reasonably assured. The exercise of lease renewal options is at our sole discretion. Several of our leases have renewal options, however, exercise of renewal is only assured for two of our current Good Manufacturing Practices, or cGMP, facilities, where we have made significant improvements or extended the lease.

For all leases at the lease commencement date, a right-of-use asset and a lease liability are recognized. The right-of-use asset represents the right to use the leased asset for the lease term. At lease commencement, leases are classified as either finance leases or operating leases. A lease is classified as a finance lease if any one of the following criteria are met: (1) the lease transfers ownership of the underlying asset by the end of the lease term; (2) the lease contains an option to purchase the underlying asset that is reasonably certain to be exercised; (3) the lease term is for a major part of the remaining economic life of the underlying asset; (4) the present value of the sum of the lease payments and any guaranteed residual value that is not already included in the lease payments equals or exceeds substantially all of the fair value of the underlying asset; or (5) the underlying asset is of such a specialized nature that it is expected to have no alternative use to the lessor at the end of the lease term. A lease is classified as an operating lease if it does not meet any one of these criteria.

We do not currently have any leases classified as finance leases. Our operating lease assets and liabilities are included in operating lease right-of-use assets, net, and current and long-term operating lease liabilities, respectively, on the consolidated balance sheets. At the commencement date, operating lease right-of-use assets and operating lease liabilities are determined based on the present value of lease payments to be made over the lease term. Operating lease right-of-use assets also include any rent paid prior to the commencement date, less any lease incentives received, and initial direct costs incurred. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term. We have elected to combine our lease components (e.g., fixed payments including rent, real estate taxes and insurance costs) with non-lease components (e.g., common-area maintenance costs and equipment maintenance costs) and as such, we account for lease and non-lease components as a single component. Lease expense also includes amounts relating to variable lease payments. Variable lease payments include amounts relating to common area maintenance and real estate taxes.

We also elected not to recognize right-of-use assets and lease liabilities for qualifying short-term leases with an initial lease term of 12 months or less at lease inception. Such leases are expensed on a straight-line basis over the lease term.

The depreciable life of operating right-of-use-assets and leasehold improvements is limited by the expected lease term.

Stock-Based Compensation

We account for stock-based compensation under the provisions of FASB ASC Topic 718, *Compensation—Stock Compensation*, or ASC 718, which applies to share-based payments issued to employees and nonemployees in exchange for goods or services. Under ASC 718, the fair value of an equity-classified award is estimated on the grant date without regard to service or performance conditions. The grant date fair values for options and warrants are estimated using the Black-Scholes-Merton option pricing model, and the grant date fair values for restricted stock units, or RSUs, are based upon the closing market price of our common stock on the date of grant.

We use the straight-line method to recognize stock-based compensation expense for our outstanding share awards that do not contain a performance condition. For awards subject to performance-based vesting conditions, we assess the probability of the individual milestones under the award being achieved and stock-based compensation expense is recognized over the service period commencing once management believes the performance criteria is probable of being met. For awards with service or performance conditions, we recognize the effect of forfeitures in compensation cost in the period that the award was forfeited.

Stock Repurchases

In November 2015, the board of directors approved a share repurchase program, or the 2015 Share Repurchase Program, allowing the CEO or CFO, on behalf of the company, to repurchase from time to time, in the open market or in privately negotiated transactions, up to $50.0 million of our outstanding shares of common stock, exclusive of any commissions, markups or expenses. The timing and amounts of any purchases were and will continue to be based on market conditions and other factors, including price, regulatory requirements and other corporate considerations. The 2015 Share Repurchase Program does not require the purchase of any minimum number of shares and may be suspended, modified or discontinued at any time without prior notice. We have financed, and expect to continue to finance, the purchases with existing cash balances. As it is the intent for the repurchased shares to be retired, we have elected to account for the shares repurchased under the constructive retirement method. For shares repurchased in excess of par, we allocate the purchase price in excess of par value to accumulated deficit.

Utilization of Net Operating Loss Carryforwards, or NOLs, and Research and Development Credits

As of December 31, 2020, we had federal, state and foreign income tax NOLs of $389.8 million, $350.3 million and $0.2 million, respectively. Of the $389.8 million in federal NOLs, $226.4 million will not expire and will be able to offset 80% of taxable income in future years. Of the $350.3 million in state NOLs, $4.4 million will not expire and will be able to offset 80% of taxable income in future years. The remaining federal NOL carryforwards begin to expire in 2024, the remaining state NOL carryforwards begin to expire in 2030 and the foreign NOL carryforwards begin to expire in 2022. As of December 31, 2020, we also had federal and state research and development tax credit carryforwards of $11.1 million and state research tax credits of $7.8 million, respectively. The federal research tax credit carryforwards begin to expire in 2034 and certain state research tax credit carryforwards begin to expire in 2031. The California research tax credits can be carried forward indefinitely. These net operating loss and research and development tax credit carryforwards could expire unused and be unavailable to offset future income tax liabilities.

Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an “ownership change” (generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period), the corporation’s ability to use its pre-change net operating loss carry forwards and other pre-change tax attributes to offset its post-change income may be limited. We have completed a study through March 2019 to determine the impact of ownership changes on our NOLs and we have undergone significant ownership changes in previous years. Accordingly, some of our NOLs and research and development credits have been derecognized.

Recent Accounting Pronouncements

Application of New or Revised Accounting Standards – Not Yet Adopted

In June 2016, the FASB issued Accounting Standards Update, or ASU, 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The FASB subsequently issued amendments to ASU 2016-13, which have the same effective date and transition dates as described below. The new guidance supersedes existing U.S. GAAP for measuring and recording of credit losses on financial assets measured at amortized cost by replacing the incurred-loss model with an expected-loss model. Accordingly, these financial assets will be presented at the net amount expected to be collected. This new standard also requires that credit losses related to available-for-sale debt securities be recorded as an allowance through net income rather than

reducing the carrying amount under the current, other-than-temporary-impairment model. For public business entities that meet the definition of a Securities and Exchange Commission, or SEC, filer, except entities that are eligible to be a smaller reporting company as defined by the SEC, the standard is effective for annual periods beginning after December 15, 2019, and interim periods therein. For all other entities, the standard is effective for annual periods beginning after December 15, 2022, and interim periods therein. Early adoption is permitted for all entities for annual periods beginning after December 15, 2018. With certain exceptions, adjustments are to be applied using a modified-retrospective approach by reflecting adjustments through a cumulative-effect impact on retained earnings as of the beginning of the fiscal year of adoption. We continue to evaluate the impact that this new standard and its related amendments will have on our consolidated financial statements and we do not intend to early adopt this new standard.

Other recent authoritative guidance issued by the FASB (including technical corrections to the ASC), the American Institute of Certified Public Accountants, and the SEC during the three months ended December 31, 2020 did not, or are not expected to, have a material effect on our consolidated financial statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Our exposure to market risk for changes in interest rates relates primarily to interest earned on our cash equivalents and investments. The primary objective of our investment activities is to preserve our capital to fund operations. A secondary objective is to maximize income from our investments without assuming significant risk. Our investment policy provides for investments in low-risk, investment-grade debt instruments. As of December 31, 2020, we had $11.4 million in cash and cash equivalents and $54.8 million in our investment portfolio. Our cash equivalents are short-term investments with maturities of 90 days or less at the time of purchase. We maintain cash deposits in FDIC insured financial institutions in excess of federally insured limits. However, we believe that we are not exposed to significant credit risk due to the financial position of the depository institutions in which those deposits are held. As of December 31, 2020, we did not hold or issue financial instruments for trading purposes. To date, we have not realized any significant loss of principal on our investments.

Interest rate risk – cash

With the cash discussed above, our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of U.S interest rates. However, we do not believe a sudden change in the interest rates would have a material impact on our financial condition or results of operations due to the short-term maturities on our cash equivalents. A hypothetical 100 basis point change in interest rates during any of the periods presented would not have had a material impact on our consolidated financial statements.

Interest rate risk – cash equivalents and investment portfolio

We invest a portion of our cash in a number of diversified fixed and floating rate securities, consisting of marketable debt securities and debt funds that are subject to interest rate risk. Changes in the general level of interest rates can affect the fair value of our investment portfolio. If interest rates in the general economy were to rise, our holdings could lose value. At December 31, 2020, a hypothetical increase in interest rates of 100 basis points across the entire yield curve on our holdings would not have resulted in a material impact on the fair value of our portfolio.

Foreign currency exchange risk

We contract with clinical research organizations, investigational sites and suppliers in foreign countries and we have a bank account in Korea. We are, therefore, subject to fluctuations in foreign currency rates in connection with these agreements. We have not entered into any material foreign currency hedging contracts although we may do so in the future. To date we have not incurred any material effects from foreign currency changes on these contracts. The effect of a 10% adverse change in exchange rates on foreign currency denominated cash and payables as of December 31, 2020 would not have been material. However, fluctuations in currency exchange rates could harm our business in the future.

Inflation risk

Inflation may affect us by increasing our cost of labor, clinical trial, and other costs. We do not believe that inflation has had a material effect on our business, financial condition or results of operations for any period presented herein.

Item 8. Financial Statements and Supplementary Data.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

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

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of NantKwest, Inc. (the Company) as of December 31, 2020 and 2019, 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, 2020, 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, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

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 Public Company Accounting Oversight Board (United States) (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. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

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

Related party transactions and disclosures

Description of the Matter	As discussed in Note 10 to the consolidated financial statements, the Company's Executive Chairman of the Board of Directors and former CEO founded and has a controlling interest in NantWorks LLC, which is a collection of multiple companies in the healthcare and technology space. Affiliates of NantWorks LLC are also affiliates of the Company due to the common control by and/or common ownership interest of the Company's Executive Chairman of the Board of Directors and former CEO. The Company has entered into multiple transactions with related parties, including shared services provided by/to NantWorks LLC, agreements with Immuno-Oncology Clinic, Inc. to conduct various clinical trials, and multiple agreements with ImmunityBio, Inc. including a collaboration agreement with ImmunityBio, Inc. for the joint development, manufacturing, and marketing of a vaccine/treatment for COVID-19. Assessing the sufficiency of procedures performed to identify related parties and related party transactions and determining the identified related party transactions were properly recorded, presented and disclosed was challenging due to the nature, volume and the significance of related party transactions.
How We Addressed the Matter in Our Audit	The audit procedures we performed included, among others, testing the completeness and accuracy of the listing of significant related parties identified and related party transactions provided by management, testing the manner in which related party transactions were recorded, presented and disclosed, and performing journal entry searches of identified related parties to verify completeness and accuracy of the Company's related party transactions. We also inspected questionnaires received from the Company's directors and officers, read employment and compensation contracts, proxy statements and other relevant filings with the Securities and Exchange Commission and other regulatory agencies that relate to the Company's financial relationships and transactions with the Company's executive officers and with other entities controlled by the Company's Executive Chairman of the Board of Directors and former CEO. We confirmed management fees payable to NantWorks LLC and other related party affiliates and agreed such fees to subsequent payments made by the Company. We designed and executed our tests of account balances and transaction details to assess potential effects on the Company's identified related parties and related party transactions. We inquired of management and members of the Company's audit committee regarding the completeness of the related party transactions identified. We assessed the adequacy of financial statement footnote disclosure pertaining to related party transactions.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2016.

Los Angeles, California
March 4, 2021

NantKwest, Inc.
Consolidated Balance Sheets
(in thousands, except share and per share amounts)

	As of December 31,	
	2020	2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 11,441	$ 15,508
Prepaid expenses and other current assets (including amounts with related parties)	9,285	4,105
Marketable debt securities, available-for-sale	54,772	36,144
Total current assets	75,498	55,757
Marketable debt securities, noncurrent	—	1,497
Property, plant and equipment, net (including amounts with related parties)	53,927	60,501
Operating lease right-of-use assets, net (including amounts with related parties)	13,463	11,729
Equity investment	7,849	9,253
Other assets (including amounts with related parties)	1,121	4,386
Total assets	$ 151,858	$ 143,123
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 4,101	$ 1,749
Accrued expenses	8,343	5,343
Due to related parties	5,269	486
Operating lease liabilities (including amounts with related parties)	5,500	3,206
Other current liabilities (including amounts with related parties)	1,438	775
Total current liabilities	24,651	11,559
Operating lease liabilities, less current portion (including amounts with related parties)	9,814	10,885
Total liabilities	34,465	22,444
Commitments and contingencies (Note 9)		
Stockholders' equity:		
Common stock, $0.0001 par value; 500,000,000 shares authorized; 108,726,551 and 98,460,404 issued and outstanding as of December 31, 2020 and December 31, 2019	11	10
Additional paid-in capital	872,078	782,965
Accumulated other comprehensive loss	(122)	(105)
Accumulated deficit	(754,574)	(662,191)
Total stockholders' equity	117,393	120,679
Total liabilities and stockholders' equity	$ 151,858	$ 143,123

The accompanying notes are an integral part of these consolidated financial statements.

NantKwest, Inc.
Consolidated Statements of Operations
(in thousands, except share and per share amounts)

	For the Year Ended December 31,		
	2020	**2019**	**2018**
Revenue	$ 111	$ 43	$ 47
Operating expenses:			
Research and development (including amounts with related parties)	64,483	49,785	55,718
Selling, general and administrative (including amounts with related parties)	27,254	18,065	42,718
Total operating expenses	91,737	67,850	98,436
Loss from operations	(91,626)	(67,807)	(98,389)
Other income (expense):			
Investment income, net	366	1,642	1,857
Interest expense (including amounts with related parties)	(41)	(19)	(433)
Other (expense) income, net (including amounts with related parties)	(1,077)	298	236
Total other (expense) income	(752)	1,921	1,660
Loss before income taxes	(92,378)	(65,886)	(96,729)
Income tax (expense) benefit	(5)	97	503
Net loss	$ (92,383)	$ (65,789)	$ (96,226)
Net loss per share:			
Basic and diluted	$ (0.89)	$ (0.70)	$ (1.22)
Weighted-average number of shares during the period:			
Basic and diluted	103,550,936	94,210,087	79,132,220

The accompanying notes are an integral part of these consolidated financial statements.

NantKwest, Inc.
Consolidated Statements of Comprehensive Loss
(in thousands)

	For the Year Ended December 31,		
	2020	2019	2018
Net loss	$ (92,383)	$ (65,789)	$ (96,226)
Other comprehensive (loss) income, net of income taxes:			
Net unrealized (losses) gains on available-for-sale securities	(26)	158	114
Reclassification of net realized losses on available-for-sale securities included in net loss	9	4	—
Total other comprehensive (loss) income	(17)	162	114
Comprehensive loss	$ (92,400)	$ (65,627)	$ (96,112)

The accompanying notes are an integral part of these consolidated financial statements.

NantKwest, Inc.
Consolidated Statements of Stockholders' Equity
(in thousands, except share and per share amounts)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total
	Shares	Amount				
Balance as of December 31, 2017	**79,021,878**	**$ 8**	**$ 717,930**	**$ (381)**	**$ (498,713)**	**$ 218,844**
Stock-based compensation expense	—	—	23,382	—	—	23,382
Exercise of warrants	93,254	—	57	—	—	57
Vesting of restricted stock units (RSUs)	172,330	—	—	—	—	—
Net share settlement for RSU vesting and warrant exercises	(61,379)	—	(123)	—	—	(123)
Repurchase of common stock	(138,349)	—	—	—	(228)	(228)
Cumulative effect of the adoption of the new revenue standard	—	—	—	—	186	186
Other comprehensive income	—	—	—	114	—	114
Net loss	—	—	—	—	(96,226)	(96,226)
Balance as of December 31, 2018	**79,087,734**	**$ 8**	**$ 741,246**	**$ (267)**	**$ (594,981)**	**$ 146,006**
Stock-based compensation expense	—	—	2,627	—	—	2,627
Exercise of warrants	17,589,250	2	35,149	—	—	35,151
Exercise of stock options	1,986,300	—	4,070	—	—	4,070
Vesting of RSUs	395,051	—	—	—	—	—
Net share settlement for RSU vesting and warrant exercises	(124,345)	—	(127)	—	—	(127)
Repurchase of common stock	(473,586)	—	—	—	(501)	(501)
Cumulative effect of the adoption of the new lease standard	—	—	—	—	(920)	(920)
Other comprehensive income	—	—	—	162	—	162
Net loss	—	—	—	—	(65,789)	(65,789)
Balance as of December 31, 2019	**98,460,404**	**$ 10**	**$ 782,965**	**$ (105)**	**$ (662,191)**	**$ 120,679**
Issuance of common stock, net of $4,373 in offering costs	8,521,500	1	86,301	—	—	86,302
Stock-based compensation expense	—	—	2,139	—	—	2,139
Exercise of stock options	1,272,273	—	1,176	—	—	1,176
Vesting of RSUs	648,336	—	—	—	—	—
Net share settlement for RSU vesting and option exercises	(175,962)	—	(503)	—	—	(503)
Other comprehensive loss	—	—	—	(17)	—	(17)
Net loss	—	—	—	—	(92,383)	(92,383)
Balance as of December 31, 2020	**108,726,551**	**$ 11**	**$ 872,078**	**$ (122)**	**$ (754,574)**	**$ 117,393**

The accompanying notes are an integral part of these consolidated financial statements.

NantKwest, Inc.
Consolidated Statements of Cash Flows
(in thousands)

	For the Year Ended December 31,		
	2020	2019	2018
Operating activities:			
Net loss	$ (92,383)	$ (65,789)	$ (96,226)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	9,147	9,012	9,555
Non-cash lease expense related to operating lease right-of-use assets	3,430	2,604	—
Stock-based compensation expense	2,139	2,627	23,382
Unrealized loss on equity investment	1,405	—	—
Amortization of net premiums and discounts on marketable debt securities	794	—	463
Losses (gains) on sales of marketable debt securities	8	4	(3)
Loss on disposal of assets	4	—	209
Non-cash interest items, net	(251)	246	291
Loss on impairment of assets	—	869	—
Deferred income tax benefit	—	—	(498)
Changes in operating assets and liabilities:			
Prepaid expenses and other current assets	(1,328)	9,276	(9,818)
Other assets	(339)	(4,063)	(1,151)
Accounts payable	2,142	41	(1,100)
Accrued expenses and other liabilities	3,686	(12,020)	12,708
Due to related parties	5,034	(1,093)	(685)
Operating lease liabilities	(3,941)	(3,076)	—
Deferred rent	—	—	(508)
Net cash used in operating activities	(70,453)	(61,362)	(63,381)
Investing activities:			
Purchases of property, plant and equipment	(2,639)	(4,182)	(13,102)
Proceeds from sales of property, plant and equipment	—	—	412
Purchases of debt securities, held-to-maturity	—	—	(723)
Purchases of investments in equity securities	—	(3)	—
Purchases of marketable debt securities, available-for-sale	(91,572)	(86,618)	(94,770)
Maturities of marketable debt securities	65,350	109,730	165,284
Sales of marketable debt securities	8,272	2,529	—
Net cash (used in) provided by investing activities	(20,589)	21,456	57,101
Financing activities:			
Proceeds from equity offering, net of issuance cost paid	86,302	—	—
Proceeds from exercises of stock options	1,176	4,070	—
Proceeds from exercises of warrants	—	35,151	57
Principal payments of financing obligations	—	—	(477)
Repurchases of common stock with commissions	—	(501)	(228)
Net share settlement for restricted stock unit vesting and warrant and option exercises	(503)	(127)	(123)
Net cash provided by (used in) financing activities	86,975	38,593	(771)
Net decrease in cash, cash equivalents, and restricted cash	(4,067)	(1,313)	(7,051)
Cash, cash equivalents and restricted cash, beginning of period	15,687	17,000	24,051
Cash, cash equivalents and restricted cash, end of period	$ 11,620	$ 15,687	$ 17,000

The accompanying notes are an integral part of these consolidated financial statements.

NantKwest, Inc.
Consolidated Statements of Cash Flows (Continued)
(in thousands)

	For the Year Ended December 31,		
	2020	2019	2018
Reconciliation of cash, cash equivalents, and restricted cash at end of period:			
Cash and cash equivalents	$ 11,441	$ 15,508	$ 16,821
Restricted cash included in other assets	179	179	179
Cash, cash equivalents, and restricted cash, end of period	$ 11,620	$ 15,687	$ 17,000
Supplemental disclosure of cash flow information:			
Cash paid during the period for:			
Interest	$ 40	$ 19	$ 475
Income taxes	$ 8	$ 3	$ 4
Supplemental disclosure of non-cash activities:			
Right-of-use assets obtained in exchange for operating lease liabilities	$ 5,164	$ 800	$ —
Cashless exercise of stock options and warrants	$ 1,233	$ 29	$ 94
Property and equipment purchases included in accounts payable, accrued expenses, and other liabilities	$ 289	$ 74	$ 4,664
Conversion of Viracta convertible notes and accrued interest into investment in equity securities of Viracta (Note 5)	$ —	$ 751	$ —
Unrealized (losses) gains on marketable debt securities	$ (17)	$ 258	$ 123

The accompanying notes are an integral part of these consolidated financial statements.

1. Description of Business

Organization

NantKwest, Inc., or NantKwest, was incorporated in Illinois on October 7, 2002 under the name ZelleRx Corporation. On January 22, 2010, the company changed its name to Conkwest, Inc., and on July 10, 2015, the company changed its name to NantKwest, Inc. In March 2014, the company redomesticated from the State of Illinois to the State of Delaware and the Illinois company ceased to exist. We are a pioneering clinical-stage immunotherapy biotechnology company headquartered in San Diego, California with certain operations in Culver City and El Segundo, California and Woburn, Massachusetts. In these notes, the terms “we,” “our,” “the company” and “us” refer to NantKwest.

We are focused on harnessing the power of the innate immune system by using our natural killer cells, or NK cells, to treat cancer and viral infectious diseases. A critical aspect of our strategy is to invest significantly in innovating new therapeutic candidates, based upon our proprietary activated NK, or aNK, cell platform, and conducting clinical testing and scale manufacturing of our most promising biologic product candidates.

We hold the exclusive right to commercialize aNK cells, a commercially viable NK cell line, and a wide range of genetically modified derivatives capable of killing cancer and virally infected cells. We own corresponding United States, or U.S., and foreign composition and methods-of-use patents and applications covering the cells, improvements, methods of expansion and manufacture and use of aNK cells and their improvements as therapeutics to treat a spectrum of clinical conditions.

Liquidity

On June 29, 2020, the company closed an underwritten public offering of common stock as discussed further in Note 11, *Stockholders Equity*. Gross proceeds from the offering were $90.7 million, before deducting underwriting discounts, commissions and other offering expenses of $4.4 million.

As of December 31, 2020, the company had an accumulated deficit of $754.6 million. We also had negative cash flow from operations of $70.5 million during the year ended December 31, 2020. The company will likely need additional capital to further fund development of, and seek regulatory approvals for, our product candidates, and to begin to commercialize any approved products.

We are currently focused primarily on the development of immunotherapeutic treatments for cancers and debilitating viral infections using targeted cancer and viral killing cell lines, and we believe such activities will result in the company’s continued incurrence of significant research and development and other expenses related to those programs. If the clinical trials for any of the company’s product candidates fail or produce unsuccessful results and those product candidates do not gain regulatory approval, or if any of our product candidates, if approved, fail to achieve market acceptance, we may never become profitable. Even if the company achieves profitability in the future, it may not be able to sustain profitability in subsequent periods. We intend to cover our future operating expenses through cash and cash equivalents and marketable debt securities on hand and through a combination of equity offerings, debt financings, government or other third party funding, marketing and distribution arrangements and other collaborations, strategic alliances, and licensing arrangements. Additional financing may not be available to us when needed and, if available, financing may not be obtained on terms favorable to the company or its stockholders.

While we expect our existing cash, and cash equivalents and marketable debt securities, together with the ability to borrow from affiliated entities, will enable us to fund operations and capital expenditure requirements for at least the next 12 months, we may not have sufficient funds to reach commercialization. Failure to obtain adequate financing when needed may require us to delay, reduce, limit, or terminate some or all of our development programs or future commercialization efforts or grant rights to develop and market product candidates that we might otherwise prefer to develop and market ourselves, which could adversely affect our ability to operate as a going concern. If we raise additional funds from the issuance of equity securities, substantial dilution to existing stockholders may result. If we raise additional funds by incurring debt financing, the terms of the debt may involve significant cash payment obligations, as well as covenants and specific financial ratios that may restrict our ability to operate our business.

2. Summary of Significant Accounting Policies

Basis of Presentation

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America, or U.S. GAAP.

The consolidated financial statements have been prepared assuming the company will continue as a going concern, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business, and do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or amounts and classification of liabilities that may result from the outcome of the uncertainty discussed in the Liquidity section of Note 1. As a result of continuing anticipated operating cash outflows, we believe that substantial doubt exists regarding our ability to continue as a going concern without additional funding or financial support. However, we believe our existing cash, cash equivalents, and investments in marketable debt securities, and our ability to borrow from affiliated entities, will be sufficient to fund operations through at least the next 12 months following the issuance date of the financial statements based primarily upon our Executive Chairman’s intent and ability to support our operations with additional funds, including loans from affiliated entities, as required, which we believe alleviates such doubt. We may also seek to sell additional equity, through one or more follow-on public offerings, or in separate financings, or obtain a credit facility. However, we may not be able to secure such financing in a timely manner or on favorable terms. Without additional funds, we may choose to delay or reduce our operating or investment expenditures. Further, because of the risk and uncertainties associated with the commercialization of the company’s product candidates in development, we may need additional funds to meet our needs sooner than planned.

Principles of Consolidation

The consolidated financial statements include the accounts of NantKwest and its wholly owned subsidiaries. All intercompany amounts have been eliminated.

We apply the variable interest model under Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 810, *Consolidation*, to any entity in which we hold an equity investment or to which we have the power to direct the entity's most significant economic activities and the ability to participate in the entity's economics. If the entity is within the scope of the variable interest model and meets the definition of a variable interest entity, or VIE, we consider whether we must consolidate the VIE or provide additional disclosures regarding our involvement with the VIE. If we determine that we are the primary beneficiary of the VIE, we will consolidate the VIE. This analysis is performed at the initial investment in the entity or upon any reconsideration event.

For entities we hold as an equity investment that are not consolidated under the VIE model, we consider whether our investment constitutes ownership of a majority of the voting interests in the entity and therefore should be considered for consolidation under the voting interest model.

Unconsolidated equity investments in the common stock or in-substance common stock of an entity under which we are able to exercise significant influence, but not control, are accounted for using the equity method. Our ability to exercise significant influence is generally indicated by ownership of 20 to 50 percent interest in the voting securities of the entity.

All other unconsolidated equity investments on which we are not able to exercise significant influence will be subsequently measured at fair value with unrealized holding gains and losses included in other income and expense, net, on the consolidated statements of operations. In the instance the equity investment does not have a readily determinable fair value and does not qualify for the practical expedient to estimate fair value in accordance with ASC 820, *Fair Value Measurement*, or ASC 820, we will apply the measurement alternative under ASC 321, *Investments—Equity Securities*, or ASC 321, pursuant to which we will measure the investment at its cost, less impairment, adjusted for observable price changes in an orderly market for an identical or similar investment of the same issuer.

We own non-marketable equity securities that are accounted for using the measurement alternative under ASC 321 because the preferred stock held by us is not considered in-substance common stock and such preferred stock does not have a readily determinable fair value. All investments are reviewed for possible impairment on a regular basis. If an investment's fair value is determined to be less than its net carrying value, the investment is written down to its fair value. Such an evaluation is judgmental and dependent on specific facts and circumstances. Factors considered in determining whether an impairment indicator is present include: the investees’ earnings performance and clinical trial performance, change in the investees’ industry and geographic area in which it operates, offers to purchase or sell the security for a price less than the cost of the investment, issues that raise concerns about the investee's ability to continue as a going concern, and any other information that we may be aware of related to the investment. Factors considered in determining whether an observable price change has occurred include: the price at which the investee issues equity instruments similar to those of our investment and the rights and preferences of those equity instruments compared to ours.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, we evaluate our estimates, including those related to valuation of equity-based awards, deferred income taxes and related valuation allowances, preclinical and clinical trial accruals, impairment assessments, the measurement of right-of-use assets and lease liabilities, useful lives of long-lived assets, loss contingencies, fair value measurements, and the assessment of the company's ability to fund its operations for at least the next twelve months from the date of issuance of these financial statements. We base our estimates on historical experience and on various other market-specific and relevant assumptions that we believe to be reasonable under the circumstances. Estimates are assessed each period and updated to reflect current information, such as the economic considerations related to the impact that the ongoing coronavirus pandemic could have on our significant accounting estimates. Actual results could differ from those estimates.

Risks and Uncertainties

In March 2020, the World Health Organization declared the novel strain of coronavirus disease (SARS-CoV-2) outbreak a pandemic. To date, our operations have not been significantly impacted by the pandemic. However, we cannot at this time predict the specific extent, duration, or full impact that this pandemic may have on our financial condition and results of operations, including ongoing and planned clinical trials. More specifically, the pandemic may result in prolonged impacts that we cannot predict at this time and we expect that such uncertainties will continue to exist until such time a vaccine is broadly available and in use. The impact of the pandemic on the financial performance of the company will depend on future developments, including the duration and spread of the outbreak and related governmental advisories and restrictions. These developments and the impact of the ongoing pandemic on the financial markets and the overall economy are highly uncertain. If the financial markets and/or the overall economy are impacted for an extended period, our results may be adversely affected.

Contingencies

We record accruals for loss contingencies to the extent that we conclude it is probable that a liability has been incurred and the amount of the related loss can be reasonably estimated. We evaluate, on a quarterly basis, developments in legal proceedings and other matters that could cause a change in the potential amount of the liability recorded or of the range of potential losses disclosed. Moreover, we record gain contingencies only when they are realizable, and the amount is known. Additionally, we record our rights to insurance recoveries, limited to the extent of incurred or probable losses, as a receivable when such recoveries have been agreed to with our third-party insurers and when receipt is deemed probable. This includes instances when our third-party insurers have agreed to pay, on our behalf, certain legal defense costs and settlement amounts directly to applicable law firms and a settlement fund.

Concentration of Credit Risk and Other Risks and Uncertainties

Financial instruments that potentially subject us to concentrations of risk consist principally of cash and cash equivalents and marketable debt securities.

Our cash and cash equivalents are held by one major financial institution in the U.S. and one in Korea. We minimize credit risk associated with our cash and cash equivalents by periodically evaluating the credit quality of our primary financial institutions. While we maintain cash deposits in FDIC insured financial institutions in excess of federally insured limits, we do not believe that we are exposed to significant credit risk due to the financial position of the depository institutions in which those deposits are held. We have not experienced any losses on such accounts.

Product candidates developed by us will require approvals or clearances from the U.S. Food and Drug Administration, or FDA, or international regulatory agencies prior to commercial sales. There can be no assurance that any of our product candidates will receive any of the required approvals or clearances. If we were to be denied approval or clearance or any such approval or clearance was to be delayed, it would have a material adverse impact on us.

Cash, Cash Equivalents and Restricted Cash

Cash equivalents include highly liquid investments with an original maturity of three months or less from the date of purchase.

Restricted cash includes a certificate of deposit held as a substitute letter of credit for one of our leased properties. This certificate of deposit is included in other assets on the consolidated balance sheets as the landlord is the beneficiary of the account and we are not able to access the funds during the term of the lease.

A reconciliation of cash, cash equivalents, and restricted cash is included on the consolidated statements of cash flows as of December 31, 2020, 2019 and 2018.

Marketable Debt Securities

We invest our excess funds in investment grade short- to intermediate-term corporate debt securities, government sponsored securities, and foreign government bonds and classify these investments as available-for-sale. Marketable debt securities with remaining maturities of 12 months or less are classified as short-term and marketable debt securities with remaining maturities greater than 12 months are classified as long-term. All marketable debt securities are reported at fair value and any unrealized gains and losses are reported as a component of accumulated other comprehensive loss on the consolidated statements of stockholders' equity, with the exception of unrealized losses believed to be other-than-temporary, which are recorded in investment income, net, on the consolidated statements of operations. Realized gains and losses are included in investment income, net, on the consolidated statements of operations. Realized gains and losses from sales of securities and the amounts, net of tax, reclassified out of accumulated other comprehensive loss, if any, are determined on a specific identification basis.

We periodically evaluate whether declines in fair values of our investments below their book value are other-than-temporary. This evaluation consists of several qualitative and quantitative factors regarding the severity and duration of the unrealized loss, as well as our ability and intent to hold the investment until a forecasted recovery occurs. Additionally, we assess whether or not we have plans to sell the security or whether or not it is more likely than not we will be required to sell any investment before recovery of its amortized cost basis. Factors considered include quoted market prices, recent financial results and operating trends, implied values from any recent transactions or offers of investee securities, credit quality of debt instrument issuers, other publicly available information that may affect the value of our investments, duration and severity of the decline in value, and our strategy and intentions for holding the investment. There were no other-than-temporary impairments recorded in the years ended December 31, 2020, 2019 and 2018.

Property, Plant and Equipment

Property, plant and equipment is stated at historical cost less accumulated depreciation. Historical cost includes expenditures that are directly attributable to the acquisition of the items. All repairs and maintenance are charged to net loss during the financial period in which they are incurred. Depreciation of property, plant and equipment is calculated using the straight-line method over the estimated useful lives of the assets, as follows:

Buildings	39 years
Software	3 years
Laboratory equipment	5 years
Furniture & fixtures	5 years
IT equipment	3 years
Leasehold improvements	The lesser of the lease term or the life of the asset

Upon disposal or impairment of property, plant and equipment, the cost and related accumulated depreciation is removed from the consolidated financial statements and the net amount, less any proceeds, is included in the consolidated statements of operations.

Intangible Assets

Intangible assets, which consisted of the cost of reacquiring a technology license during 2015, were amortized using the straight-line method over an estimated useful life of 4 years. As of December 31, 2019, our intangible assets were fully amortized.

Patents

Patent costs, including related legal costs, are expensed as incurred and recorded in selling, general and administrative expenses on the consolidated statements of operations.

Impairments

Long-lived assets include property, plant and equipment and intangible assets. We review long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability is measured by comparison of the carrying amount to the future net cash flows that the assets are expected to generate. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the projected undiscounted future cash flows arising from the assets using a discount rate determined by management to be commensurate with the risk inherent to our current business model.

During the year ended December 31, 2019, we determined that certain bioreactor laboratory equipment could no longer be utilized in the production process. As a result, we recorded an impairment charge totaling $0.9 million, which is included in research and development expense on the consolidated statements of operations. There were no impairment losses recognized during the years ended December 31, 2020 and 2018.

Fair Value of Financial Instruments

The accounting standard for fair value measurements provides a framework for measuring fair value and requires disclosures regarding fair value measurements. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, based on our principal or, in absence of a principal, most advantageous market for the specific asset or liability.

We use a three-tier fair value hierarchy to classify and disclose all assets and liabilities measured at fair value on a recurring basis, as well as assets and liabilities measured at fair value on a non-recurring basis, in periods subsequent to their initial measurement. The hierarchy requires us to use observable inputs when available, and to minimize the use of unobservable inputs, when determining fair value.

The three tiers are defined as follows:

- Level 1— Observable inputs that reflect quoted market prices (unadjusted) for identical assets or liabilities in active markets at the measurement date. Since valuations are based on quoted prices that are readily and regularly available in an active market, valuation of these products does not entail a significant degree of judgment. Our Level 1 assets consist of bank deposits and money market funds.
- Level 2— Observable inputs other than quoted prices in active markets that are observable either directly or indirectly in the marketplace for identical or similar assets and liabilities. Our Level 2 assets consist of corporate debt securities including commercial paper, government sponsored securities and corporate bonds, as well as foreign municipal securities.
- Level 3— Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

During the years ended December 31, 2020, 2019 and 2018, no transfers were made into or out of the Level 1, 2 or 3 categories. We will continue to review the fair value inputs on a quarterly basis.

We utilize a third-party pricing service to assist in obtaining fair value pricing for our investments in marketable debt securities. Inputs are documented in accordance with the fair value disclosure hierarchy.

Collaboration Arrangements

We analyze our collaboration arrangements to assess whether they are within the scope of FASB ASC Topic 808, *Collaborative Arrangements*, or ASC 808. A collaborative arrangement is a contractual arrangement that involves a joint operating activity. These arrangements involve two or more parties who are active participants in the activity, and exposed to significant risks and rewards dependent on the commercial success of the activity. This assessment is performed throughout the life of the arrangement based on changes in the responsibilities of all parties in the arrangement. To the extent the collaboration agreement is within the scope of ASC 808, we also assess whether the arrangement contains multiple elements that are within the scope of other accounting literature. If we conclude that some or all aspects of the agreement are distinct and represent a transaction with a customer, we account for those aspects of the arrangement within the scope of FASB ASC Topic 606, *Revenue from Contracts with Customers*, or ASC 606. Amounts that are owed to collaboration partners that are within the scope of ASC 808 are recognized as an offset to research and development expenses as such amounts are incurred by the collaboration partner. Where amounts owed to a collaboration partner exceed our collaboration expenses in each quarterly period, such amounts are classified as research and development expense.

Our collaboration arrangements require us to acquire certain equipment for exclusive use in the joint operating activities. These equipment purchases do not have an alternative use and are therefore expensed as incurred within research and development expenses.

Our collaboration arrangements are further discussed within Note 8, *Collaboration and License Agreements*.

Preclinical and Clinical Trial Accruals

As part of the process of preparing the financial statements, we are required to estimate expenses resulting from obligations under contracts with vendors, clinical research organizations and consultants. The financial terms of these contracts vary and may result in payment flows that do not match the periods over which materials or services are provided under such contracts.

We estimate clinical trial and research agreement related expenses based on the services performed, pursuant to contracts with research institutions and clinical research organizations and other vendors that conduct clinical trials and research on our behalf. In accruing clinical and research related fees, we estimate the time period over which services will be performed and activity expended in each period. If the actual timing of the performance of services or the level of effort varies from the estimate, we will adjust the accrual accordingly. Payments made under these arrangements in advance of the receipt of the related services are recorded as prepaid expenses until the services are rendered.

Transactions with Related Parties

As outlined in Note 10, *Related Party Agreements*, we have various agreements with related parties. Some are billed and settled in cash monthly. Others are billed quarterly and settled in cash the following month. Monthly accruals are made for all quarterly billing arrangements.

Lease Obligations

On January 1, 2019, we adopted FASB ASC Topic 842, *Leases*, or ASC 842. For contracts entered into on or after the effective date, we determine if an arrangement is, or contains, a lease at lease inception. Our assessment is based on: (1) whether the contract involves the use of a distinct identified asset; (2) whether we obtain the right to substantially all of the economic benefit from the use of the asset throughout the period; and (3) whether we have the right to direct the use of the asset. At inception of a lease, we allocate the consideration in the contract to each lease component based on its relative stand-alone price to determine the lease payments. Leases entered into prior to January 1, 2019, which were accounted for under ASC 840, *Leases*, were not reassessed as we elected the package of practical expedients permitted under the transition guidance within ASC 842, which among other things, allowed us to carry forward the historical lease classification. We determine the lease term by assuming the exercise of renewal options that are reasonably assured. The exercise of lease renewal options is at our sole discretion. Several of our leases have renewal options, however, exercise of renewal is only assured for two of our current Good Manufacturing Practices, or cGMP, facilities, where we have made significant improvements or extended the lease.

For all leases at the lease commencement date, a right-of-use asset and a lease liability are recognized. The right-of-use asset represents the right to use the leased asset for the lease term. At lease commencement, leases are classified as either finance leases or operating leases. A lease is classified as a finance lease if any one of the following criteria are met: (1) the lease transfers ownership of the underlying asset by the end of the lease term; (2) the lease contains an option to purchase the underlying asset that is reasonably certain to be exercised; (3) the lease term is for a major part of the remaining economic life of the underlying asset; (4) the present value of the sum of the lease payments and any guaranteed residual value that is not already included in the lease payments equals or exceeds substantially all of the fair value of the underlying asset; or (5) the underlying asset is of such a specialized nature that it is expected to have no alternative use to the lessor at the end of the lease term. A lease is classified as an operating lease if it does not meet any one of these criteria.

We do not currently have any leases classified as finance leases. Our operating lease assets and liabilities are included in operating lease right-of-use assets, net, and current and long-term operating lease liabilities, respectively, on the consolidated balance sheets. At the commencement date, operating lease right-of-use assets and operating lease liabilities are determined based on the present value of lease payments to be made over the lease term. Operating lease right-of-use assets also include any rent paid prior to the commencement date, less any lease incentives received, and initial direct costs incurred. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term. We have elected to combine our lease components (e.g., fixed payments including rent, real estate taxes and insurance costs) with non-lease components (e.g., common-area maintenance costs and equipment maintenance costs) and as such, we account for lease and non-lease components as a single component. Lease expense also includes amounts relating to variable lease payments. Variable lease payments include amounts relating to common area maintenance and real estate taxes.

We also elected not to recognize right-of-use assets and lease liabilities for qualifying short-term leases with an initial lease term of 12 months or less at lease inception. Such leases are expensed on a straight-line basis over the lease term.

The depreciable life of operating right-of-use-assets and leasehold improvements is limited by the expected lease term.

Income Taxes

We recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial reporting and tax basis of assets and liabilities, as well as for operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using the tax rates that are expected to apply to taxable income for the years in which those tax assets and liabilities are expected to be realized or settled. We record valuation allowances to reduce deferred tax assets to the amount we believe is more likely than not to be realized.

We recognize uncertain tax positions when the position will be more likely than not upheld on examination by the taxing authorities based solely upon the technical merits of the positions. We recognize interest and penalties, if any, related to unrecognized income tax uncertainties in income tax expense. We did not have any accrued interest or penalties associated with uncertain tax positions as of December 31, 2020 and 2019.

We are subject to U.S. federal income tax, as well as income tax in Korea, California and other states. To date, we have not been required to pay U.S. federal and state income taxes because of current and accumulated net operating losses. The federal returns for tax years 2017 through 2020 remain open to examination and the state returns remain subject to examination for tax years 2016 through 2020. Carryforward attributes that were generated in years where the statute of limitations is closed may still be adjusted upon examination by the Internal Revenue Service or other respective tax authority. All other state jurisdictions remain open to examination. No income tax returns are currently under examination by taxing authorities.

Stock Repurchases

In November 2015, the board of directors approved the 2015 Share Repurchase Program (Note 11) allowing the CEO or CFO, on behalf of the company, to repurchase from time to time, in the open market or in privately negotiated transactions, up to $50.0 million of our outstanding shares of common stock, exclusive of any commissions, markups or expenses. The timing and amounts of any purchases were and will continue to be based on market conditions and other factors, including price, regulatory requirements and other corporate considerations. The 2015 Share Repurchase Program does not require the purchase of any minimum number of shares and may be suspended, modified or discontinued at any time without prior notice. We have financed, and expect to continue to finance, the purchases with existing cash balances. As it is the intent for the repurchased shares to be retired, we have elected to account for the shares repurchased under the constructive retirement method. For shares repurchased in excess of par, we allocate the purchase price in excess of par value to accumulated deficit.

Revenue Recognition

On January 1, 2018, we adopted the provisions of FASB ASC Topic 606, *Revenue from Contracts with Customers*, or ASC 606. This guidance requires that entities recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. We adopted ASC 606 on January 1, 2018 by recording the cumulative effect of the adoption to accumulated deficit. We applied the new guidance to contracts that were not complete as of January 1, 2018. Implementation of ASC 606 did not have a material impact on our consolidated financial statements.

We derive substantially all of our revenue from non-exclusive license agreements with a limited number of pharmaceutical and biotechnology companies granting them the right to use our cell lines and intellectual property for non-clinical use. These agreements generally include upfront fees and annual research license fees for such use, as well as commercial license fees for sales of the licensee products developed or manufactured using our intellectual property and cell lines.

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account in ASC 606. A contract’s transaction price is allocated to each distinct performance obligation based on relative standalone selling price and recognized as revenue when, or as, the performance obligation is satisfied.

Under the company’s license agreements with customers, the company typically promises to provide a license to use certain cell lines and related patents, the related know-how, and future research and development data that affect the license. We have concluded that these promises represent one performance obligation due to the highly interrelated nature of the promises. We provide the cell lines and know-how immediately upon entering into the contracts. The research and development data is provided throughout the term of the contract when and if available.

Our license agreement with Precigen (Note 8) included a nonrefundable upfront payment of $0.4 million, received when we entered into the contract in 2010. In this instance, we determined that under ASC 606 it would be appropriate to recognize the initial milestone payment at a point in time, when we transferred the license. In this case, the intellectual property provided under the contract is functional intellectual property under ASC 606 and was determined to be a distinct performance obligation in the context of the arrangement. Prior to adoption, the upfront payment had been initially recorded as deferred revenue and was being recognized into revenue on a straight-line basis. As a result, upon adoption of ASC 606, we adjusted our accumulated deficit for the effects of recognizing revenue upfront for the initial milestone. The adjustment to accumulated deficit upon adoption was not material.

The license agreements may include nonrefundable upfront payments, event-based milestone payments, sales-based royalty payments, or some combination of these. The event-based milestone payments represent variable consideration and we use the most likely amount method to estimate this variable consideration. Given the high degree of uncertainly around achievement of these milestones, we do not recognize revenue from these milestone payments until the uncertainty associated with these payments is resolved. We currently estimate variable consideration related to milestone payments to be zero and, as such, no revenue has been recognized for milestone payments. We recognize revenue from sales-based royalty payments when or as the sales occur. On a quarterly basis, we re-evaluate our estimate of milestone variable consideration to determine whether any amount should be included in the transaction price and recorded in revenue prospectively.

Upon adoption, we changed our accounting policy from accounting for milestones payments under the milestone method to accounting for variable consideration as discussed above. The change in accounting policy did not change any amounts in the financial statements because of the significant uncertainty surrounding the estimate of variable consideration for milestone payments.

To date, we have generated minimal revenue related to the non-clinical use of our cell lines and intellectual property. We have no products approved for commercial sale and we have not generated any revenue from product sales. If we fail to complete the development of our product candidates in a timely manner or fail to obtain regulatory approval for them, we may never be able to generate substantial future revenue.

Research and Development Costs

Major components of research and development costs include cash compensation and other personnel-related expenses, stock-based compensation, depreciation and amortization expense on research and development property and equipment and intangible assets, costs of preclinical studies, clinical trials and related clinical manufacturing, costs of drug development, costs of materials and supplies, facilities cost, overhead costs, regulatory and compliance costs, and fees paid to consultants and other entities that conduct certain research and development activities on our behalf. Costs incurred in research and development are expensed as incurred.

Included in research and development costs are clinical trial and research expenses based on the services performed pursuant to contracts with research institutions and clinical research organizations and other vendors that conduct clinical trials and research on our behalf. We record accruals for estimated costs under these contracts. When evaluating the adequacy of the accrued liabilities, we analyze the progress of the studies or clinical trials, including the phase or completion of events, invoices received, contracted costs and purchase orders. Significant judgments and estimates are made in determining the accrued balances at the end of any reporting period based on the facts and circumstances known at that time. Although we do not expect the estimates to be materially different from the amounts actually incurred, if the estimates of the status and timing of services performed differs from the actual status and timing of services performed, we may report amounts that are too high or too low in any particular period. Actual results could differ from our estimates.

Stock-Based Compensation

We account for stock-based compensation under the provisions of FASB ASC Topic 718, *Compensation—Stock Compensation*, or ASC 718, which applies to share-based payments issued to employees and nonemployees in exchange for goods or services. Under ASC 718, the fair value of an equity-classified award is estimated on the grant date without regard to service or performance conditions. The grant date fair values for options and warrants are estimated using the Black-Scholes-Merton option pricing model, and the grant date fair values for restricted stock units, or RSUs, are based upon the closing market price of our common stock on the date of grant.

We use the straight-line method to recognize stock-based compensation expense for our outstanding share awards that do not contain a performance condition. For awards subject to performance-based vesting conditions, we assess the probability of the individual milestones under the award being achieved and stock-based compensation expense is recognized over the service period commencing once management believes the performance criteria is probable of being met. For awards with service or performance conditions, we recognize the effect of forfeitures in compensation cost in the period that the award was forfeited.

Litigation Costs

We expense legal fees as they are incurred.

Comprehensive Income (Loss)

Comprehensive income or loss is defined as the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources. Comprehensive income or loss is composed of net income (loss) and other comprehensive income (loss). Our other comprehensive income or loss consists of unrealized gains and losses on marketable debt securities classified as available-for-sale, net of income taxes.

Basic and Diluted Net Loss per Share of Common Stock

Basic net loss per share is calculated by dividing the net loss by the weighted-average number of common shares outstanding for the period. Diluted loss per share is computed similarly to basic loss per share except that the denominator is increased to include the number of additional shares that would have been outstanding if the potential common shares had been issued and if the additional common shares were dilutive.

For all periods presented, potentially dilutive securities are excluded from the computation of fully diluted loss per share as their effect is anti-dilutive. The following table details those securities that have been excluded from the computation of potentially dilutive securities:

	As of December 31,		
	2020	2019	2018
Outstanding options	3,518,010	4,506,950	6,493,250
Outstanding RSUs	466,842	1,139,428	867,911
Outstanding warrants	—	—	17,589,250
Total	3,984,852	5,646,378	24,950,411

Amounts in the table above reflect the common stock equivalents of the noted instruments.

Segment and Geographic Information

Operating segments are defined as components of an enterprise (business activity from which it earns revenue and incurs expenses) for which discrete financial information is available and regularly reviewed by the chief operating decision maker in deciding how to allocate resources and in assessing performance. Our chief operating decision maker is the company's CEO. We view our operations and manage our business as a single operating and reporting segment. As of December 31, 2020 and 2019, the majority of our assets were held in the U.S. For the years ended December 31, 2020, 2019 and 2018, all of our revenue was derived in the U.S.

Recent Accounting Pronouncements

Application of New or Revised Accounting Standards – Adopted

In November 2018, the FASB issued Accounting Standards Update, or ASU, No. 2018-18, *Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606* (ASU 2018-18). ASU 2018-18 clarifies when certain transactions between collaborative arrangement participants should be accounted for as revenue under Topic 606. It also specifically addresses when the participant should be considered a customer in the context of a unit of account; adds unit of account guidance in ASC 808 to align with guidance in ASC 606; and precludes presenting revenue from a collaborative arrangement together with revenue recognized under ASC 606 if the collaborative arrangement participant is not a customer. This standard is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years with early adoption permitted. We adopted ASU 2018-18, as required, in the quarter ended March 31, 2020. We are a party to several collaboration arrangements as further described in Note 8, *Collaboration and License Agreements*, however, adoption of ASU 2018-18 did not have an impact on our consolidated financial statements because the counterparties to our collaboration agreements do not meet the definition of a customer.

In December 2019, the FASB issued ASU 2019-12, *Simplifying the Accounting for Income Taxes*, or ASU 2019-12. The amendments in ASU 2019-12 include removing the exception to the incremental approach for intraperiod tax allocation when there is a loss from continuing operations and income or a gain from other items (e.g., discontinued operations or other comprehensive income), and the exception to the general methodology for calculating income taxes in an interim period when a year-to-date loss exceeds the anticipated loss for the year. ASU 2019-12 also amends other aspects of accounting for income taxes to help simplify and promote consistent application of U.S. GAAP. The guidance is effective for interim and annual periods beginning after December 15, 2020, with early adoption permitted. We early adopted ASU 2019-12 effective January 1, 2020, and it did not have a material impact on our consolidated financial statements. Although our adoption of ASU 2019-12 did not have a material impact on our consolidated financial statements during the year ended December 31, 2020, it may have a material impact on our consolidated financial statements in future periods due to the removal of the exceptions discussed above. The amendments related to intraperiod tax allocation and the amendment related to calculating income taxes in an interim period when a year-to-date loss exceeds the anticipated loss for the year were applied prospectively.

Application of New or Revised Accounting Standards – Not Yet Adopted

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The FASB subsequently issued amendments to ASU 2016-13, which have the same effective date and transition dates as described below. The new guidance supersedes existing U.S. GAAP for measuring and recording of credit losses on financial assets measured at amortized cost by replacing the incurred-loss model with an expected-loss model. Accordingly, these financial assets will be presented at the net amount expected to be collected. This new standard also requires that credit losses related to available-for-sale debt securities be recorded as an allowance through net income rather than reducing the carrying amount under the current, other-than-temporary-impairment model. For public business entities that meet the definition of a Securities and Exchange Commission, or SEC, filer, except entities that are eligible to be a smaller reporting company as defined by the SEC, the standard is effective for annual periods beginning after December 15, 2019, and interim periods therein. For all other entities, the standard is effective for annual periods beginning after December 15, 2022, and interim periods therein. Early adoption is permitted for all entities for annual periods beginning after December 15, 2018. With certain exceptions, adjustments are to be applied using a modified-retrospective approach by reflecting adjustments through a cumulative-effect impact on retained earnings as of the beginning of the fiscal year of adoption. We continue to evaluate the impact that this new standard and its related amendments will have on our consolidated financial statements and we do not intend to early adopt this new standard.

Other recent authoritative guidance issued by the FASB (including technical corrections to the ASC), the American Institute of Certified Public Accountants, and the Securities and Exchange Commission during the three months ended December 31, 2020 did not, or are not expected to, have a material effect on our consolidated financial statements.

3. Financial Statement Details

Prepaid expenses and other current assets

As of December 31, 2020 and 2019, prepaid expenses and other current assets consist of (in thousands):

	As of December 31,	
	2020	2019
Prepaid preclinical and clinical trial services - with related party (Note 10)	$ 4,626	$ 1,021
Insurance premium financing asset	1,421	757
Prepaid insurance	657	372
Prepaid services	607	440
Prepaid rent	589	392
Interest receivable - marketable debt securities	473	222
Prepaid supplies - with related party (Note 10)	281	467
Prepaid equipment maintenance	243	251
Prepaid license fees	233	78
Laboratory equipment deposit	66	—
Due from related parties	45	47
Insurance claim receivables	—	34
Other	44	24
	$ 9,285	$ 4,105

Property, plant and equipment, net

As of December 31, 2020 and 2019, property, plant and equipment, net, consist of (in thousands):

	As of December 31,	
	2020	2019
Leasehold improvements	$ 33,680	$ 33,406
Equipment	23,069	21,434
Buildings	22,690	22,690
Software	1,190	1,195
Furniture & fixtures	415	383
	81,044	79,108
Accumulated depreciation	(27,117)	(18,607)
	$ 53,927	$ 60,501

Depreciation expense related to property, plant and equipment was $9.1 million, $8.4 million and $7.3 million for the years ended December 31, 2020, 2019 and 2018, respectively.

Intangible assets, net

Our intangible assets were fully amortized as of March 31, 2019. Amortization expense was $0.6 million and $2.3 million for the years ended December 31, 2019 and 2018, respectively, and is included in research and development expense on the consolidated statements of operations.

Other assets

As of December 31, 2020 and 2019, other assets consist of (in thousands):

	As of December 31,	
	2020	2019
Security deposits	$ 481	$ 113
Prepaid software license fees	318	—
Restricted cash	179	179
Prepaid preclinical and clinical trial services - with related party (Note 10)	92	4,075
Due from related party	51	19
	$ 1,121	$ 4,386

Restricted cash is comprised of a certificate of deposit that serves as collateral for a letter of credit required by our landlord as a security deposit related to our facility in San Diego, California.

Accrued expenses

As of December 31, 2020 and 2019, accrued expenses consist of (in thousands):

	As of December 31,	
	2020	2019
Accrued professional and service fees	$ 2,920	$ 975
Accrued bonus	2,236	2,002
Accrued compensation	1,368	1,064
Accrued laboratory equipment and supplies	641	640
Accrued preclinical and clinical trial costs	638	281
Accrued capital expenditures	337	—
Accrued franchise, sales/use and property taxes	103	200
Other	100	181
	$ 8,343	$ 5,343

Other current liabilities

As of December 31, 2020 and 2019, other current liabilities consist of (in thousands):

	As of December 31,	
	2020	2019
Financing obligation - current portion	$ 1,421	$ 757
Other	17	18
	$ 1,438	$ 775

Investment income, net

Net investment income included the following for the years ended December 31, 2020, 2019 and 2018 (in thousands):

	For the Year Ended December 31,		
	2020	2019	2018
Interest income	$ 1,233	$ 1,643	$ 2,317
Investment (amortization expense) accretion income, net	(858)	3	(463)
Net realized (losses) gains on investments	(9)	(4)	3
	$ 366	$ 1,642	$ 1,857

Interest income includes interest from marketable debt securities, notes receivable, other assets, and interest from bank deposits. We did not recognize an impairment loss on any investments during the years ended December 31, 2020, 2019 and 2018.

4. Agreement and Plan of Merger with ImmunityBio

On December 21, 2020, NantKwest and ImmunityBio, Inc. (ImmunityBio) entered into an Agreement and Plan of Merger (the Merger Agreement), pursuant to which NantKwest and ImmunityBio agreed to combine their businesses. The Merger Agreement provides that a wholly owned subsidiary of NantKwest will merge with and into ImmunityBio (the Merger), with ImmunityBio continuing as the surviving company and being renamed NantCell, Inc., upon the terms and subject to the conditions therein. At the effective time of the Merger (the Effective Time), NantKwest's name, as the parent of NantCell, Inc., will be changed to "ImmunityBio, Inc."

At the Effective Time, each share of ImmunityBio common stock issued and outstanding immediately prior to the Effective Time, subject to certain exceptions as set forth in the Merger Agreement, will be converted automatically into a right to receive 0.8190 shares of NantKwest common stock. At the Effective Time, each share of NantKwest common stock issued and outstanding immediately prior to the Effective Time, will remain an issued and outstanding share of the combined company. At the Effective Time, each outstanding option, warrant or restricted stock unit to purchase ImmunityBio common stock will be converted (using the merger exchange ratio of 0.8190) into an option, warrant or restricted stock unit, respectively, on the same terms and conditions immediately prior to the Effective Time, to purchase shares of common stock of the combined company.

Upon consummation of the Merger, on a fully-diluted basis, ImmunityBio stockholders and NantKwest stockholders will own approximately 72% and 28%, respectively, of the outstanding shares of common stock of the combined company. It is estimated that, immediately following the closing date, Dr. Patrick Soon-Shiong, our Executive Chairman and principal stockholder, and his affiliates will beneficially own, in the aggregate, approximately 82% of the common stock of the combined company.

Following consummation of the Merger, shares of common stock of the combined company are expected to be listed on the Nasdaq Global Select Market under the symbol "IBRX".

Under the terms and subject to the conditions set forth in the Merger Agreement, the closing of the Merger depends on a number of conditions being satisfied, including approval of the Merger by holders of a majority of the outstanding shares of NantKwest common stock as of the NantKwest record date (excluding all shares of NantKwest common stock beneficially owned by Dr. Patrick Soon-Shiong and his affiliates Cambridge Equities, LP and Chan Soon-Shiong Family Foundation or any of their respective controlled affiliates or any of the directors or executive officers of NantKwest or ImmunityBio).

On February 1, 2021, our Registration Statement on Form S-4, which was filed with the Securities and Exchange Commission (SEC) in connection with the Merger, was declared effective by the SEC.

A special meeting of the stockholders of NantKwest will be held on March 8, 2021 to consider and vote on a proposal to approve the issuance of shares of common stock of NantKwest to security holders of ImmunityBio, and to consider and vote on a proposal to approve the Merger. Only holders of record of NantKwest common stock at the close of January 29, 2021, will be entitled to notice of and to vote at the special meeting.

We expect the Merger to close in the first quarter of 2021, subject to receipt of the requisite stockholder approvals and satisfaction of other customary closing conditions.

The Merger is expected to be accounted for as a transaction between entities under common control as Dr. Patrick Soon-Shiong is the controlling stockholder of each of NantKwest and ImmunityBio. Upon the closing of the Merger, the net assets of ImmunityBio will be combined with those of NantKwest at their historical carrying amounts and the companies will be presented on a combined basis for all historical periods presented.

For the year ended December 31, 2020, we incurred costs of $6.2 million in connection with our proposed merger with ImmunityBio, consisting of financial advisory, legal and other professional fees.

5. Viracta Investment

In March 2017, we participated in a Series B convertible preferred stock financing and invested $8.5 million in Viracta Therapeutics, Inc., or Viracta, a clinical stage drug development company, which was initially recorded at cost. In May 2017, we executed an exclusive worldwide license with Viracta to develop and commercialize Viracta's proprietary histone deacetylase inhibitor drug candidate for use in combination with natural killer cell therapy and possibly additional therapies. See Note 8, *Collaboration and License Agreements – Royalties and In-licensing Agreements – Viracta License Agreement*, for further information.

In June 2018, Viracta executed a 2018 Note and Warrant Purchase Agreement with existing and new investors, including us. The initial closing under the Purchase Agreement occurred in June 2018, at which point we purchased a convertible note for $0.4 million, which under certain circumstances was convertible into preferred stock of Viracta, and a warrant to purchase Viracta's common shares. The convertible note accrued interest at 8% and had a one-year maturity date. In September 2018, a milestone closing under the Purchase Agreement occurred, at which point we purchased an additional convertible note for $0.4 million, which under certain circumstances was convertible into preferred stock of Viracta, and a warrant to purchase Viracta's common shares. The convertible note accrued interest at 8% and had a one-year maturity date. We classified the convertible notes as held-to-maturity notes receivable on the consolidated balance sheets. Effective January 31, 2019, the notes, together with accrued interest then outstanding, were converted to Series B preferred stock resulting in an increase to our investment in Viracta's Series B convertible preferred stock of $0.8 million. In May 2019, we exercised warrants to acquire 253,120 shares of Viracta common stock.

Based on the level of equity investment at risk, Viracta is not a VIE and therefore is not consolidated under the VIE model. In addition, we do not hold a controlling financial interest in Viracta, and therefore we do not consolidate Viracta under the voting interest model. As the preferred stock is not considered in-substance common stock, the investment is not within the scope of accounting for the investment under the equity method. As the preferred stock does not have a readily determinable fair value and does not qualify for the practical expedient to estimate fair value in accordance with ASC 820, we have elected to apply the measurement alternative under ASC 321, pursuant to which we measure our investment in Viracta at cost, less impairment, adjusted for observable price changes in an orderly market for an identical or similar investment of the same issuer, with such changes recognized in the consolidated statements of operations. Some factors we may consider in the impairment analysis include the extent to which the security has been in an unrealized loss position, the change in the financial condition and near-term prospects of the issuer, as well as security and industry specific economic conditions.

At December 31, 2020, our fair value assessment indicated that the recent offering of Viracta's Series E preferred shares, at a lower offering price per share than the per share carrying amount of our investment in Viracta, is a directional indicator representing an observable price change in an orderly transaction for a similar investment. On December 31, 2020, we reduced the carrying value by $1.4 million due to the observable price change, which has been included in other income and expense, net, on the consolidated statements of operations. On a cumulative basis, we have recognized a reduction in carrying value of $1.4 million. At December 31, 2020, the carrying value of our investment in Viracta, which is reflected in equity investment on the consolidated balance sheets, totaled $7.8 million.

6. Financial Instruments – Investments in Marketable Debt Securities

At December 31, 2020, our investments in available-for-sale debt securities consist of (in thousands):

	December 31, 2020				
	Weighted-Average Remaining Contractual Life (in years)	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Current:					
Corporate debt securities	0.3	$ 54,789	$ 2	$ (19)	$ 54,772
Current portion	0.3	54,789	2	(19)	54,772
Total	0.3	$ 54,789	$ 2	$ (19)	$ 54,772

At December 31, 2019, our investments in available-for-sale debt securities consist of (in thousands):

	December 31, 2019			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Current:				
Corporate debt securities	$ 32,382	$ 10	$ (3)	$ 32,389
Foreign government bonds	1,007	—	—	1,007
Government sponsored securities	2,752	—	(4)	2,748
Current portion	36,141	10	(7)	36,144
Noncurrent:				
Corporate debt securities	1,501	—	(4)	1,497
Noncurrent portion	1,501	—	(4)	1,497
Total	$ 37,642	$ 10	$ (11)	$ 37,641

Accumulated unrealized losses on debt securities classified as available-for-sale that have been in a continuous loss position for less than 12 months and for more than 12 months at December 31, 2020 and 2019, were as follows (in thousands):

	December 31, 2020			
	Less than 12 months		More than 12 months	
	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
Corporate debt securities	$ 42,762	$ (19)	$ —	$ —
Total	$ 42,762	$ (19)	$ —	$ —

	December 31, 2019			
	Less than 12 months		More than 12 months	
	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
Corporate debt securities	$ 11,021	$ (3)	$ 1,497	$ (4)
Government sponsored securities	—	—	2,748	(4)
Total	$ 11,021	$ (3)	$ 4,245	$ (8)

At December 31, 2020, 34 of the securities were in an unrealized loss position. We evaluated our securities for other-than-temporary impairment and concluded that the decline in value was primarily caused by current economic and market conditions. We do not intend to sell the investments and it is not more likely than not that we will be required to sell the investments before recovery of their amortized cost bases. Therefore, we did not recognize any other-than-temporary impairment loss during the years ended December 31, 2020, 2019 and 2018.

We recognized realized gains and losses on sales of available-for-sale debt securities as follows (in thousands):

	Gross Realized Gains	Gross Realized Losses	Net Realized Gains (Losses)
2020	$ 4	$ (13)	$ (9)
2019	$ 4	$ (8)	$ (4)
2018	$ 3	$ —	$ 3

7. Fair Value Measurements

Fair value is defined as an exit price that would be received from the sale of an asset or paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Authoritative guidance establishes a three-level hierarchy for disclosure that is based on the extent and level of judgment used to estimate the fair value of assets and liabilities.

Recurring Valuations

Financial assets and liabilities measured at fair value on a recurring basis are summarized below at December 31, 2020 and 2019 (in thousands):

	Fair Value Measurements as of December 31, 2020			
	Total	Level 1	Level 2	Level 3
Assets:				
Current:				
Cash and cash equivalents	$ 11,441	$ 11,441	$ —	$ —
Corporate debt securities	54,772	—	54,772	—
Total assets measured at fair value	$ 66,213	$ 11,441	$ 54,772	$ —

	Fair Value Measurements as of December 31, 2019			
	Total	Level 1	Level 2	Level 3
Assets:				
Current:				
Cash and cash equivalents	$ 15,508	$ 15,508	$ —	$ —
Corporate debt securities	32,389	—	32,389	—
Foreign government bonds	1,007	—	1,007	—
Government sponsored securities	2,748	—	2,748	—
Noncurrent:				
Corporate debt securities	1,497	—	1,497	—
Total assets measured at fair value	$ 53,149	$ 15,508	$ 37,641	$ —

Non-recurring Valuations

Non-financial assets and liabilities are recognized at fair value subsequent to initial recognition when they are deemed to be other-than-temporarily impaired. There were no material non-financial assets and liabilities deemed to be other-than-temporarily impaired and measured at fair value on a non-recurring basis for the years ended December 31, 2020, 2019 and 2018.

8. Collaboration and License Agreements

Collaborative Arrangements

A collaborative arrangement is a contractual arrangement that involves a joint operating activity. These arrangements involve two or more parties who are (i) active participants in the activity, and (ii) exposed to significant risks and rewards dependent on the commercial success of the activity.

We have entered into the following collaborative arrangements with ImmunityBio, Inc., ImmunityBio, as described below. ImmunityBio is a related party, as it is controlled by our Executive Chairman and principal stockholder, Dr. Patrick Soon-Shiong (Note 10).

Joint COVID-19 Collaboration Agreement

On August 21, 2020, we entered into a definitive agreement, which we refer to as the Collaboration Agreement, with ImmunityBio to pursue collaborative joint development, manufacturing and marketing of certain COVID-19 therapeutics and vaccines. The terms of the Collaboration Agreement supersede and replace the terms of the binding term sheet executed on May 22, 2020. Through their efforts, the parties agreed to jointly develop ceNK, haNK, mesenchymal stem cells (MSC), adenovirus constructs (hAd5), and N-803, a novel IL-15 superagonist fusion protein, for the prevention and treatment of SARS-CoV-2 viral infections and associated conditions in humans, including without limitation, COVID-19. Pursuant to the Collaboration Agreement, we have contributed our ceNK, haNK, and MSC product candidates and certain of our manufacturing capabilities, and ImmunityBio has contributed their hAd5 and N-803 product candidates. hAd5 has been developed as a vaccine, and ceNK, haNK, MSC and N-803 have each been developed as therapeutics for treating COVID-19 at various stages of infection.

From and after the effective date of the Collaboration Agreement, the parties will share equally in all costs relating to developing and manufacturing of the product candidates globally with the exception of certain laboratory equipment purchases that will be borne solely by us. With the exception of N-803, we will be primarily responsible for the manufacture of each product. Each party will be responsible for the regulatory affairs and the commercialization relating to its contributed products. The global net profits from the collaboration products will be shared 60%/40% in favor of the party contributing the product on which the sales are based except if the parties mutually agree because of certain circumstances. All net profits from sales of combined collaboration products will be shared equally. This collaboration is supervised by a joint steering committee, which is comprised of an equal number of representatives from both parties. The term of the agreement will be five years and it is renewable for an additional five year period upon mutual agreement. Each party will also have a right to terminate in the event of material breach, bankruptcy, or insolvency.

For the year ended December 31, 2020, joint research activity under the Collaboration Agreement totaled $8.4 million, which has been included in research and development expense on the consolidated statements of operations. Expenses incurred during the year ended December 31, 2020 were primarily related to purchases of equipment of $5.0 million to be utilized in the manufacture of the hAd5 COVID-19 vaccine candidate, and net program related costs of $3.4 million, after applying the eligible cost sharing under the Collaboration Agreement. Certain equipment purchases made by us during the year ended December 31, 2020, which are necessary for us to fulfil our manufacturing obligations related to the COVID-19 program, were borne solely by us. The equipment purchases do not have an alternative use and were therefore expensed as incurred within research and development expenses. Prior to the effective date of the Collaboration Agreement, COVID-19 related program costs incurred by us and ImmunityBio, including expenditures related to property, plant and equipment, were the responsibility of each party and not subject to the equal cost sharing. As of December 31, 2020, we owed ImmunityBio $3.3 million for net costs incurred under the Collaboration Agreement, which has been included in due to related parties on the consolidated balance sheets.

Cost Sharing Agreement

In January 2020, but effective on October 1, 2019, we entered into a Cost Allocation Agreement with ImmunityBio and its subsidiaries to co-sponsor and conduct certain combination clinical trials (each a Joint Study) pursuant to clinical trial protocols wherein at least one investigational agent is a proprietary therapeutic drug candidate owned or controlled by NantKwest and at least one other investigational agent is a proprietary therapeutic drug candidate owned or controlled by ImmunityBio. Prior to initiating any activities for a Joint Study the parties agreed to enter into written work orders describing, amongst other things, development and management responsibilities, allocation of Joint Study costs and expenses, regulatory responsibilities, and any other matters relating to the Joint Study.

Under the Cost Allocation Agreement, each of ImmunityBio and the company will receive exclusive rights to any new intellectual property developed that relates solely to its respective study drug, and the parties will have joint co-equal rights in any other intellectual property. The Cost Allocation Agreement expires on June 22, 2022 with the option to renew for additional successive one-year terms, but work orders for any joint studies still in process at the time of termination will continue until the applicable study is completed.

We and ImmunityBio are splitting certain costs related to these joint studies equally in accordance with the terms of the Cost Allocation Agreement and related work orders. Shared Joint Study costs include cost related to conducting the Joint Study development activities, such as personnel related costs, as well as all costs associated with regulatory matters. Costs and expenses incurred in connection with the development, manufacturing, supply, delivery, and pre-patient administration dosing mechanism of each party’s study drug, are excluded from the shared Joint Study costs.

In January 2020, but effective on October 1, 2019, we executed Work Order Number One with ImmunityBio, pursuant to the Cost Allocation Agreement. Under Work Order Number One, the parties are conducting a clinical trial pursuant to the protocol titled QUILT 3.063: *A phase 2 study of combination therapy with an IL-15 superagonist (N-803), off-the-shelf CD16-targeted natural killer cells (haNK), and avelumab without cytotoxic chemotherapy in subjects with Merkel Cell Carcinoma (MCC) that has progressed on or after treatment with a checkpoint inhibitor*. The ImmunityBio study drug included in this Joint Study is ImmunityBio's proprietary IL-15 superagonist known as N-803, and our study drug is our proprietary "off-the-shelf" CD16-targeted natural killer cell therapy known as haNK. We are the sponsor of this Joint Study for purposes of regulatory matters, including submissions, correspondence, and communications. Additionally, we are designated as the contracting party to execute agreements with third and related parties relating to the Joint Study.

In July 2020, but effective on June 22, 2020, we executed Work Order Number Two with ImmunityBio, pursuant to the Cost Allocation Agreement. Under Work Order Number Two, the parties are conducting a clinical trial pursuant to the protocol titled QUILT 88: *Open-label, randomized, comparative phase 2 study of combination immunotherapy with standard-of-care chemotherapy versus standard-of-care chemotherapy for first and second line treatment of locally or advanced metastatic pancreatic cancer*. The ImmunityBio study drugs included in the joint study are ImmunityBio's proprietary IL-15 superagonist (N-803) and Aldoxorubicin Hydrochloride (Aldoxorubicin), and our study drug is PD-L1.t-haNK. ImmunityBio is the sponsor of this Joint Study for purposes of regulatory matters, including submissions, correspondence, and communications with the FDA. Additionally, ImmunityBio is designated as the contracting party to execute agreements with third and related parties relating to this Joint Study.

During the years ended December 31, 2020 and 2019, we incurred net costs of $1.1 million and $35,700, respectively, after applying the eligible costs sharing under the Cost Allocation Agreement, which have been recognized in research and development expense on the consolidated statements of operations. As of December 31, 2020, we owed ImmunityBio $0.3 million related to the Cost Allocation Agreement. As of December 31, 2019, no balances were due between the parties with respect to the Cost Allocation Agreement.

Royalties and In-licensing Agreements

Viracta License Agreement

In May 2017, we entered into an agreement with Viracta under which we were granted exclusive worldwide rights to Viracta's phase II drug candidate, VRx-3996, for use in combination with our platform of NK cell therapies. In consideration for the license, we are obligated to pay to Viracta (i) mid-single digit percentage royalties of net sales of licensed products for therapeutic use; and (ii) milestone payments ranging from $10.0 million to $25.0 million for various regulatory approvals and cumulative net sales levels. We may terminate the agreement, at our sole discretion, in whole or on a product by product and/or country by country basis, at any time upon 90 days' prior written notice. In addition, either party may terminate the agreement in the event of a material breach or for bankruptcy of the other party.

Fox Chase Cancer Center License Agreement

In 2004 and amended in 2008, we entered into an exclusive license agreement with Fox Chase Cancer Center, or Fox Chase, for the exclusive, worldwide right to certain patents and know-how pertaining to CD16 receptor bearing NK-92 cell lines. In consideration for this exclusive license, we agreed to pay Fox Chase (i) low single-digit percentage royalties on net sales of licensed products for therapeutic and diagnostic use; and (ii) mid-twenties percentage royalties on any compensation we receive from sublicensees.

Rush University Medical Center License Agreement

In 2004, we entered into a 12-year licensing agreement with Rush University Medical Center for the exclusive rights to license and grant sublicenses of certain intellectual property related to clinical use of NK-92. We are required to pay low to mid-single digit percentage royalties on net sales depending upon the various fields of studies and other factors. We were required to pay a minimum annual royalty of $25,000. The Rush University Medical Center License Agreement also provides for payments in the aggregate amount of $2.5 million upon the company achieving various milestones, including upon (i) the completion of phase II clinical trial associated with the licensed intellectual property; (ii) the approval by the FDA of a new drug application for a licensed product; and (iii) the first year that sales of the licensed product equals or exceeds $0.3 million. The license had a term of 12 years from 2006, the year in which royalty payments were first made, and included customary termination rights for both parties. Beginning in 2018, this license converted to a perpetual, irrevocable, fully paid, royalty-free, exclusive license. No milestones were met during the years ended December 31, 2020, 2019 and 2018.

Out-Licensing Agreement

Precigen (formerly known as Intrexon) License Agreement

In February 2010, we entered into a 17-year license agreement with Precigen Corporation, Inc., or Precigen, pursuant to which we granted to Precigen a non-exclusive, worldwide, sublicensable license to research and sell products under certain patents relating to modified NK-92 cells that express Precigen's proprietary gene sequences for use as a therapeutic and prophylactic agent in humans in specified therapeutic areas. In consideration for the license agreement, Precigen paid us a one-time fee of $0.4 million. Prior to our adoption of ASC 606 at the beginning of 2018, this upfront payment had initially been recorded as deferred revenue and was being recognized into revenue on a straight-line basis. Upon our adoption of ASC 606, we adjusted our accumulated deficit in an amount equal to the then remaining deferred revenue after concluding that under ASC 606 the upfront payment would have been recognized when the license was transferred in 2010. Precigen will pay the following milestone payments: $0.1 million upon the first IND filing; $0.1 million upon the commencement of the first phase II clinical trial; $0.4 million upon the commencement of the first phase III clinical trial; and $0.5 million upon the first commercial sale relating to the licensed products. Precigen is obligated to pay us a low single digit percentage royalty based on net sales of the licensed products by Precigen and a mid-teen percentage royalty based on revenues received by Precigen in connection with sublicenses of the licensed products. No milestone payments were due or received in the years ended December 31, 2020, 2019 and 2018, and, therefore, we did not record any milestone revenue for any of those years on the consolidated statements of operations.

9. Commitments and Contingencies

Contingencies

We record accruals for loss contingencies to the extent that we conclude it is probable that a liability has been incurred and the amount of the related loss can be reasonably estimated. We evaluate, on a quarterly basis, developments in legal proceedings and other matters that could cause a change in the potential amount of the liability recorded or of the range of potential losses disclosed. Moreover, we record gain contingencies only when they are realizable, and the amount is known. Additionally, we record our rights to insurance recoveries, limited to the extent of incurred or probable losses, as a receivable when such recoveries have been agreed to with our third-party insurers and when receipt is deemed probable. This includes instances where our third-party insurers have agreed to pay, on our behalf, certain legal defense costs and settlement amounts directly to applicable law firms and a settlement fund.

Securities Litigation

In March 2016, a putative securities class action complaint captioned *Sudunagunta v. NantKwest, Inc., et al.*, No. 16-cv-01947 was filed in federal district court for the Central District of California related to the company's restatement of certain interim financial statements for the periods ended June 30, 2015 and September 30, 2015. A number of similar putative class actions were filed in federal and state court in California. The actions originally filed in state court were removed to federal court, and the various related actions were consolidated. Plaintiffs asserted causes of action for alleged violations of Sections 11 and 15 of the Securities Act of 1933 and Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 and Rule 10b-5 promulgated thereunder. Plaintiffs sought unspecified damages, costs and attorneys' fees, and equitable/injunctive or other relief on behalf of putative classes of persons who purchased or acquired the company's securities during various time periods from July 28, 2015 through March 11, 2016. In September 2017, the court denied defendants' motion to dismiss the third amended consolidated complaint. On August 13, 2018, the district court granted plaintiffs' motions for class certification and to strike plaintiffs' claims under the Securities Exchange Act of 1934 and Rule 10b-5. On August 24, 2018, at the district court's direction, plaintiffs filed a fourth amended consolidated complaint. On August 27, 2018, defendants petitioned the U.S. Court of Appeals for the Ninth Circuit to authorize interlocutory appeal of the class certification order. On September 7, 2018, defendants answered the fourth amended consolidated complaint. On September 21, 2018, the parties informed the Ninth Circuit that they had reached a settlement in principle, and the parties moved to stay appellate proceedings. On September 24, 2018, the parties notified the district court that they had reached a settlement in principle. On November 9, 2018, the plaintiffs filed an unopposed motion for preliminary approval of the settlement and notice to class members. On January 9, 2019, the district court granted the motion for preliminary approval. A final approval hearing was held on April 29, 2019, and the district court granted final approval and entered judgment on May 31, 2019.

Under the terms of the settlement, we paid $12.0 million to the plaintiffs as full and complete settlement of the litigation. We were responsible for $1.2 million of the settlement amount, which was recognized in selling, general and administrative expense during the year ended December 31, 2018, while the remaining $10.8 million was fully funded by our insurance carriers under our directors' and officers' insurance policy. We and the insurance carriers paid the settlement amount into a settlement fund during the year ended December 31, 2019. Subsequent to receiving final approval of the settlement on May 31, 2019, the aforementioned settlement accrual, associated insurance claim receivable and restricted cash were released and are no longer reflected on the consolidated balance sheets.

Stipulation of Settlement

In early April 2019, following board approval, we entered into a settlement agreement, or the Stipulation of Settlement, with three stockholders of the company, each of whom had submitted a stockholder demand for the board to take action to remedy purported harm to the company resulting from certain alleged wrongful conduct concerning, among other things, disclosures about Dr. Soon-Shiong's compensation and a related-party lease agreement. The Stipulation of Settlement called for us to adopt certain governance changes, and for the three stockholders to file a stockholder derivative action in the Superior Court of the State of California, County of San Diego, followed by an application for court approval of the Stipulation of Settlement. On May 31, 2019, the court entered an order preliminarily approving the Stipulation of Settlement and scheduling the final settlement hearing for August 9, 2019. Pursuant to the Stipulation of Settlement, we have provided stockholders with notice of the settlement and the final settlement hearing.

Under the terms of the Stipulation of Settlement, which received final approval by the court on August 9, 2019, we paid an attorney's fee of $0.5 million to the plaintiffs as part of the settlement. Of that amount, we were responsible for half, which was recognized in selling, general and administrative expense on the consolidated statements of operations during the year ended December 31, 2019, while the other half was funded by our insurance carrier. We and the insurance carrier paid the settlement amount into a settlement fund in June 2019. Subsequent to receiving final approval of the settlement on August 9, 2019, the aforementioned settlement accrual, associated insurance claim receivable and restricted cash were released and are no longer reflected on the consolidated balance sheets.

Insurance Recoveries

We have reflected our right to insurance recoveries, limited to the extent of incurred or probable losses, as a receivable when such recoveries have been agreed to with our third-party insurers and receipt is deemed probable. This includes instances where our third-party insurers have agreed to pay, on our behalf, certain legal defense costs and settlement amounts directly to applicable law firms and a settlement fund. The amount of such receivable recorded at December 31, 2019 was $34,000, which is included in prepaid expenses and other current assets on our consolidated balance sheets. There were no such receivables recorded as of December 31, 2020.

Contractual Obligations - Leases

On January 1, 2019, we adopted the new lease accounting guidance as discussed in further detail in Note 2. The most significant change requires us to record the present value of operating lease payments as right-of-use assets and lease liabilities on our balance sheets. We adopted the new guidance using the simplified transition approach. As a result, reporting periods beginning on January 1, 2019 are presented under the new guidance, while periods prior to January 1, 2019 continue to be reported in accordance with our historical accounting.

The adoption of the new lease accounting guidance had a substantial impact on our balance sheet. The most significant impacts were (1) the recognition of $13.5 million of operating lease right-of-use assets, net, and $16.4 million of operating lease liabilities, and (2) the derecognition of assets and liabilities associated with build-to-suit leases under ASC 840, resulting in the derecognition of property, plant and equipment, net, of $6.6 million and net adjustments to related liabilities of $5.7 million). The build-to-suit leases were recorded as normal operating leases under ASC 842. The difference between the excess of build-to-suit related liabilities and assets of $0.9 million was recorded as an increase to our accumulated deficit. The cumulative-effect adjustment had no tax impact due to the valuation allowance against the gross deferred tax asset less reversing deferred tax liabilities. Adoption of this standard had no material impact on our results of operations and cash flows.

Lease Arrangements

Substantially all of our operating lease right-of-use assets and operating lease liabilities relate to facilities leases. As of December 31, 2020, we lease: (i) a research facility and office space in San Diego, California; (ii) a research and manufacturing space in Culver City, California, from a related party; (iii) research and manufacturing facilities in El Segundo, California, also from related parties; (iv) a research facility in Torrance, California, and (v) a research facility in Woburn, Massachusetts. See Note 10, *Related Party Agreements*, for further information.

Our leases generally have initial terms ranging from two to ten years and often include one or more options to renew. These renewal terms can extend the lease term from one to three years, and are included in the lease term when it is reasonably certain that we will exercise the option. These operating leases are included in operating lease right-of-use assets, net, on the consolidated balance sheets, and represent the right to use the underlying asset for the lease term. Our obligations to make lease payments are included in current and non-current operating lease liabilities on the consolidated balance sheets.

Our operating right-of-use assets and lease liabilities as of December 31, 2020 and 2019, are as follows (in thousands):

	As of December 31,	
	2020	2019
Right-of-use assets:		
Operating lease right-of-use assets, net (including amounts with related parties)	$ 13,463	$ 11,729
Short-term lease liabilities:		
Operating lease liabilities (including amounts with related parties)	$ 5,500	$ 3,206
Long-term lease liabilities:		
Operating lease liabilities (including amounts with related parties)	$ 9,814	$ 10,885
Total lease liabilities:		
Operating lease liabilities (including amounts with related parties)	$ 15,314	$ 14,091

The components of lease expense for the years ended December 31, 2020 and 2019 consist of (in thousands):

	For the Year Ended December 31,	
	2020	2019
Operating lease costs	$ 4,655	$ 3,898
Variable lease costs	1,566	1,215
Total lease costs	$ 6,221	$ 5,113

Rental expenses for operating leases during the year ended December 31, 2018, excluding common-area maintenance, was $2.8 million.

Cash paid during the years ended December 31, 2020 and 2019 for amounts included in the measurement of lease liabilities is as follows (in thousands):

	For the Year Ended December 31,	
	2020	2019
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows for operating leases	5,345	4,371

The weighted-average remaining lease term as of December 31, 2020 and 2019 was 3.2 years and 4.5 years, respectively. The weighted-average discount rate used in determining the present value of operating lease liabilities as of December 31, 2020 and 2019 was 9%.

Future minimum lease payments as of December 31, 2020, including $3.9 million related to options to extend lease terms that are reasonably certain of being exercised, are presented in the following table (in thousands). Common area maintenance costs and taxes are not included in these payments.

Years ending December 31:	Operating Leases (a)
2021	$ 6,563
2022	5,607
2023	2,545
2024	1,083
2025	1,115
Thereafter	614
Total future minimum lease payments	17,527
Less: Interest	2,213
Present value of operating lease liabilities	$ 15,314

In September 2020, we entered into a sublease agreement with Altor Bioscience Manufacturing Company, LLC, a related party (Note 10), whereby we leased approximately 6,901 square feet in El Segundo, California, including laboratory space and related furniture, fixtures and equipment. The agreement also includes certain non-lease components related primarily to the right to use certain common areas within the building and the related furniture and fixtures. This facility will be used to manufacture and produce clinical products for our oncology product candidate trials. The lease runs from August 2020 through July 2022, and includes an option to extend the lease for an additional one-year term through July 2023. The monthly fixed charge related to the agreement is $0.2 million, a portion of which is subject to annual increases of 3% which began in November 2020. In addition, under the agreement, we are required to pay our share of estimated property taxes and operating expenses, both of which are variable lease expenses. At inception of the lease we recognized an increase of $4.0 million in both operating lease right-of-use assets and operating lease liabilities on the consolidated balance sheets.

In August 2018, NantBio, Inc., or NantBio, a related party (Note 10), assigned an agreement to us for the use of a third-party research facility, which provides us with the exclusive right to use and access to a portion of the third party's laboratory and vivarium premises. In conjunction with the assignment, we reimbursed NantBio for upfront payments which it had made to the third party of $0.9 million, and paid $0.5 million directly to the third party for an aggregate value of $1.4 million. The assigned agreement is for a term of ten years and expires in June 2027. The agreement may be terminated by us at any time, with or without cause. In case of termination of the agreement, the third party will reimburse us for a pro-rata amount based upon the passage of time.

In September 2016, we entered into a lease agreement with 605 Doug St, LLC, a related party (Note 10), for approximately 24,250 square feet in El Segundo, California, which has been converted to a research and development laboratory and a cGMP manufacturing facility. The lease runs from July 2016 through July 2023. We have the option to extend the lease for an additional three year term through July 2026. The monthly rent is $0.1 million with annual increases of 3% beginning in July 2017.

In March 2016, we entered into a lease agreement for an approximately 7,893 square foot facility in Woburn, Massachusetts, for a research and development laboratory, related office and other related uses. The initial lease term ran for 48 months from April 29, 2016 through May 31, 2020. In June 2016, the lease was amended to add 260 square feet, for a total of 8,153 square feet. Base rent for the initial term of the lease was $19,000 per month with a $1 per square foot annual increase on each anniversary date. In August 2019, we exercised our right pursuant to the lease agreement to extend the term of the lease for an additional two years through May 31, 2022. Consequently, in August 2019 we recognized an increase of $0.6 million in both operating lease right-of-use assets and operating lease liabilities on the consolidated balance sheets. Base rent for the extended term of the lease is $25,800 per month with an annual increase of 3% on June 1, 2021.

In November 2015, we entered into a facility license agreement with NantWorks LLC, or NantWorks, a related party (Note 10), for approximately 9,500 square feet of office space in Culver City, California, which has been converted to a research and development laboratory and a cGMP manufacturing facility. The initial license was effective from May 2015 through December 2020. Base monthly rent for the initial lease term was $47,000, with annual increases of 3% beginning in January 2017. In September 2020, we entered into an amendment to extend the term of this lease through December 31, 2021. Commencing on January 1, 2021, the monthly rent will increase by 3% to $54,500. Subsequent to December 31, 2021, the lease term will automatically renew on a month-to-month basis, terminable by either party with at least thirty days' prior written notice to the other party. In addition, we will have a one-time option to extend the lease term through December 31, 2022. If we exercise the option to extend the lease through December 31, 2022, or continue on a month-to-month basis, the monthly rent will increase by 3% annually commencing on January 1 of each year. On the date of amendment we recognized an increase of $1.2 million in both operating lease right-of-use assets and operating lease liabilities on the consolidated balance sheets, which reflects our belief that we will extend the term of this lease through December 31, 2022.

In June 2015, we entered into a lease agreement for an approximately 44,700 square foot facility in San Diego, California, for a research and development laboratory, related office and other related uses. The term of the lease extends for seven years commencing on August 1, 2016. The base rent is $0.2 million per month with 3% annual increases on each anniversary date.

Unconditional Purchase Obligations

Unconditional purchase obligations are defined as an agreement to purchase goods or services that is enforceable and legally binding (non-cancelable, or cancelable only in certain circumstances). We estimate our total unconditional purchase obligation commitment (for those contracts with terms in excess of one year) as of December 31, 2020, at $2.7 million. Payments by year are estimated as follows: 2021 ($1.2 million), 2022 ($1.2 million) and 2023 ($0.3 million). These commitments relate primarily to hosted software license subscription fees and related implementation costs and our pro-rata share is passed-through to us without any markup under the shared services agreement with NantWorks (as further described in Note 10 below). The purchase obligation amounts do not represent the entire anticipated purchases in the future, but represent only those items for which we are contractually obligated. The majority of our goods and services are purchased as needed, with no unconditional commitment. For this reason, these amounts do not provide an indication of our expected future cash outflows related to purchases.

10. Related Party Agreements

Our Executive Chairman, and principal stockholder, founded and has a controlling interest in NantWorks, which is a collection of multiple companies in the healthcare and technology space. As described below, we have entered into arrangements with NantWorks, and certain affiliates of NantWorks, to facilitate the development of new genetically modified NK cells for our product pipeline. Affiliates of NantWorks are also affiliates of the company due to the common control by and/or common ownership interest of our Executive Chairman.

NantWorks

Under the NantWorks shared services agreement executed in November 2015, but effective August 2015, NantWorks provides corporate, general and administrative, manufacturing strategy, research and development, regulatory and clinical trial strategy, and other support services. We are charged for the services at cost plus reasonable allocations for indirect costs that relate to the employees providing the services. For the years ended December 31, 2020, 2019 and 2018, we recorded $2.5 million, $2.1 million and $2.8 million, respectively, in selling, general and administrative expense, and $1.5 million, $1.5 million and $3.3 million, respectively, in research and development expense under this arrangement on the consolidated statements of operations. These amounts exclude certain general and administrative expenses provided by third party vendors directly for our benefit, which have been reimbursed to NantWorks based on those vendors' invoiced amounts without markup by NantWorks.

In June 2016, we amended the existing shared services agreement with NantWorks whereby we can provide support services to NantWorks and/or any of its affiliates. For the years ended December 31, 2020, 2019 and 2018, we recorded expense reimbursements of $1.4 million, $1.2 million and $0.6 million, respectively, in selling, general and administrative expense and $1.6 million, $2.3 million and $2.6 million, respectively, in research and development expense.

At December 31, 2020 and 2019, we owed NantWorks a net amount of $1.2 million and $0.4 million, respectively, for all agreements between the two affiliates, which is included in due to related parties on the consolidated balance sheets.

In November 2015, we entered into a facility license agreement with NantWorks, which became effective in May 2015, for approximately 9,500 square feet in Culver City, California, which has been converted to a research and development laboratory and a cGMP manufacturing facility. In September 2020, we amended this agreement to extend the term of this lease through December 31, 2021, as further described in Note 9, *Commitments and Contingencies*. Lease expense for this facility for the years ended December 31, 2020, 2019 and 2018, is recorded in research and development expense on the consolidated statements of operations and was $0.6 million, $0.6 million, and $0.2 million, respectively.

Immuno-Oncology Clinic, Inc.

Beginning in 2017, we entered into multiple agreements with Immuno-Oncology Clinic, Inc., or the Clinic (dba Chan Soon-Shiong Institutes for Medicine, in El Segundo, California), to conduct clinical trials related to certain of our product candidates. The Clinic is a related party as it is owned by one officer of NantKwest and NantWorks manages the administrative operations of the Clinic. Prior to June 30, 2019, one of the company's officers was an investigator or sub-investigator for all of the company's trials conducted at the Clinic.

In July 2019, we entered into a new agreement with the Clinic (the Clinic Agreement), which became effective on July 1, 2019. The Clinic Agreement, as amended on March 31, 2020, covers clinical trial and research related activities on a non-exclusive basis relating to our existing clinical trials, commenced prior to July 1, 2019, and prospective clinical trials and research projects. The Clinic Agreement also specifies certain services and related costs that are excluded from the Clinic Agreement. Prior to commencing any work under the Clinic Agreement, the parties have agreed to execute written work orders setting forth the terms and conditions related to specific services to be performed, including financial terms. For clinical trials that commenced prior to July 1, 2019, fees incurred for services performed after July 1, 2019 are covered under the Clinic Agreement and applied towards the below-mentioned prepayments. The Clinic Agreement allows for an automatic renewal and additional extensions beyond the initial one year term.

In consideration of the services to be performed under the Clinic Agreement, as amended on March 31, 2020, we agreed to make payments of up to $7.5 million to the Clinic, of which $3.75 million and $1.875 million were paid in July 2019 and October 2019, respectively. As amended, a conditional payment of $1.875 million shall be due and payable at such time, if any, that the payments made in July 2019 and October 2019 have been earned by the Clinic through performance of services. On a quarterly basis, our prepayment is increased by an interest credit computed in accordance with terms specified in the Clinic Agreement.

To the extent any portion of the prepayments remain unearned by the Clinic on the third anniversary of the Clinic Agreement, we may elect at our sole discretion either to (i) not extend the term of the Clinic Agreement and have the Clinic reimburse us for the total amount of any remaining unused portion of the prepayments, or (ii) extend the term of the Clinic Agreement for up to three additional one year periods, at which time the Clinic will reimburse us for the total amount of any remaining unused portion of the prepayments plus interest if reimbursement is not made within 60 days of expiration. The Clinic may terminate this agreement upon each anniversary date upon sixty (60) days prior written notice and reimbursement in full to us of any outstanding unearned balance of the prepayments, provided that any such termination by the Clinic will not apply with respect to any work orders still in effect at the time of such termination.

In July 2019, we executed a clinical trial work order under the Clinic Agreement for an open-label, phase I study of PD-L1.t-haNK for infusion in subjects with locally advanced or metastatic solid cancers. In July 2020, but effective on June 22, 2020, we and ImmunityBio executed a clinical trial work order under our existing master agreement with the Clinic for an open-label, randomized, comparative phase II study of ImmunityBio's proprietary IL-15 superagonist (N-803) and Aldoxorubicin Hydrochloride (Aldoxorubicin) and our PD-L1.t-haNK with standard-of-care chemotherapy versus standard-of-care chemotherapy for first and second line treatment of locally or advanced metastatic pancreatic cancer.

During the years ended December 31, 2020, 2019 and 2018, $0.6 million, $1.1 million, and $2.7 million, respectively, was recognized in research and development expense on the consolidated statements of operations related to clinical trial and research related activities conducted for us by the Clinic. As of December 31, 2020 and 2019, we owed the Clinic $0.3 million and $0.1 million, respectively, for services excluded from the Clinic Agreement, which are included in due to related parties on the consolidated balance sheets. As of December 31, 2020 and 2019, we had prepaid balances related to the Clinic Agreement of $4.7 million and $5.1 million, respectively, which are included in prepaid expenses and other currents assets, and other assets, on the consolidated balance sheets. We anticipate that the remaining prepayment amount as of December 31, 2020 will be utilized in future periods as the Clinic provides additional services pursuant to the Clinic Agreement.

ImmunityBio

ImmunityBio, Inc., or ImmunityBio, is a related party, as it is controlled by our Executive Chairman and principal stockholder, Dr. Patrick Soon-Shiong.

On December 21, 2020, we entered into a merger agreement with ImmunityBio pursuant to which NantKwest and ImmunityBio agreed to combine their businesses. The proposed merger is discussed in additional detail in Note 4, *Agreement and Plan of Merger with ImmunityBio*.

In September 2020, we entered into a sublease agreement with Altor Bioscience Manufacturing Company, LLC, a subsidiary of ImmunityBio, whereby we leased approximately 6,901 square feet in El Segundo, California, including laboratory space and related furniture, fixtures and equipment. The agreement also includes certain non-lease components related primarily to the right to use certain common areas within the building and the related furniture and fixtures. This facility will be used to manufacture and produce clinical products for our oncology product candidate trials. The lease runs from August 2020 through July 2022, and includes an option to extend the lease for an additional one-year term through July 2023. The monthly fixed charge related to the agreement is $0.2 million, a portion of which is subject to annual increases of 3% which began in November 2020. In addition, under the agreement, we are required to pay our share of estimated property taxes and operating expenses, both of which are variable lease expenses. Lease expense for this facility is recorded in research and development expense on the consolidated statements of operations and was $0.9 million during the year ended December 31, 2020. As of December 31, 2020, we owed $0.1 million under this agreement related to variable lease costs.

On August 21, 2020, we entered into a Collaboration Agreement with ImmunityBio as further described in Note 8, *Collaboration and License Agreements*. As of December 31, 2020, the joint research activity under the Collaboration Agreement totaled $8.4 million, which has been included in research and development expense on the consolidated statements of operations. Expenses incurred during the year ended December 31, 2020 were primarily related to purchases of equipment of $5.0 million, to be utilized in the manufacture of the hAd5 COVID-19 vaccine candidate, and net program related costs of $3.4 million, after applying the eligible cost sharing under the Collaboration Agreement. Certain equipment purchases made by us during the year ended December 31, 2020, which are necessary for us to fulfil our manufacturing obligations related to the COVID-19 program, were borne solely by us. The equipment purchases do not have an alternative use and were therefore expensed as incurred within research and development expenses. Prior to the effective date of the Collaboration Agreement, COVID-19 related program costs incurred by us and ImmunityBio, including expenditures related to property, plant and equipment, were the responsibility of each party and not subject to the equal cost sharing. As of December 31, 2020, we owed ImmunityBio $3.3 million for net costs incurred under the Collaboration Agreement, which has been included in due to related parties on the consolidated balance sheets.

In January 2020, but effective on October 1, 2019, we entered into a Cost Allocation Agreement with ImmunityBio, which (together with related work orders) is described further in Note 8, *Collaboration and License Agreements*. During the years ended December 31, 2020 and 2019, we incurred net costs of $1.1 million and $35,700, respectively, after applying the eligible costs sharing under the Cost Allocation Agreement, which have been recognized in research and development expense on the consolidated statements of operations. As of December 31, 2020, our balance owed to ImmunityBio related to the Cost Allocation Agreement was $0.3 million. As of December 31, 2019, no balances were due between the parties with respect to the Cost Allocation Agreement.

In November 2018, we entered into an agreement with Etubics Corporation, or Etubics, a subsidiary of ImmunityBio. Pursuant to this agreement we sold used laboratory equipment to Etubics for $0.3 million. In conjunction with this sale, we recognized a loss on disposal of related laboratory equipment of $0.1 million, which was included in other income, net on the consolidated statements of operations.

In June 2015, we entered into a supply agreement with ImmunityBio pursuant to which we have the right to purchase ImmunityBio's proprietary bioreactors, made according to specifications mutually agreed to with ImmunityBio. We also have the right to purchase reagents and consumables associated with such equipment from ImmunityBio. When an upfront payment is made, it is included in prepaid expenses on the consolidated balance sheets until the product is received. The agreement had an initial term of five years and renews automatically for successive one-year periods unless terminated earlier.

At December 31, 2020 and 2019, we had $3.2 million and $1.8 million, respectively, in equipment purchased from ImmunityBio pursuant to our supply agreement, which has been included in property, plant and equipment, net, on the consolidated balance sheets. During the years ended December 31, 2020, 2019 and 2018, we recorded research and development expense associated with reagents and consumables purchased from ImmunityBio pursuant to our supply agreement of $0.3 million, $0.1 million and $0.1 million, respectively, on the consolidated statements of operations. At December 31, 2020 and 2019, we had $0.1 million and $0.5 million, respectively, included in prepaid expenses and other current assets on the consolidated balance sheets related to consumables purchased from ImmunityBio.

605 Doug St, LLC

In September 2016, we entered into a lease agreement with 605 Doug St, LLC, an entity owned by our Executive Chairman, and principal stockholder, for approximately 24,250 square feet in El Segundo, California, which has been converted to a research and development laboratory and a cGMP laboratory manufacturing facility. The lease runs from July 2016 through July 2023. We have the option to extend the lease for an additional three-year term through July 2026. The monthly rent is $0.1 million with annual increases of 3% beginning in July 2017. Lease expense for this facility for the years ended December 31, 2020, 2019 and 2018, is recorded in research and development expense on the consolidated statements of operations and was $0.9 million, $0.9 million and $0.2 million, respectively. At December 31, 2020 and 2019, no balances were due between the parties.

NantBio, Inc.

In August 2018, NantBio assigned an agreement to us for the use of a third-party research facility, which provides us with the exclusive right to use and access to a portion of the third party's laboratory and vivarium premises. NantBio is a related party as it is an affiliate of NantWorks. In conjunction with the assignment, we reimbursed NantBio for upfront payments which it had made to the third party of $0.9 million and paid $0.5 million directly to the third party for an aggregate value of $1.4 million. The assigned agreement is for a term of ten years and expires in June 2027. The agreement may be terminated by us at any time, with or without cause. In case of termination of the agreement, the third party will reimburse us for a pro-rata amount based upon the passage of time.

In March 2016, NantBio and the National Cancer Institute entered into a cooperative research and development agreement. The initial five-year agreement covers NantBio and its affiliates, including us. Under the agreement, the parties are collaborating on the preclinical and clinical development of proprietary recombinant natural killer cells and monoclonal antibodies in monotherapy and in combination immunotherapies. We benefited from the preclinical and clinical research conducted during the first four years under this agreement. In each of the contractual years under the agreement we paid $0.6 million to the National Cancer Institute as a prepayment for services under the agreement. We recognize research and development expense related to this agreement ratably over a 12-month period for each funding year and recorded $0.6 million of expense related to this agreement in each of the years ended December 31, 2020, 2019 and 2018. At December 31, 2020 and 2019, we had balances of $0.1 million and $0.1 million, respectively, included in prepaid expenses and other current assets related to this agreement on the consolidated balance sheets.

NantHealth Labs, Inc.

In March 2018, we entered into an agreement with NantHealth Labs, Inc., or NantHealth Labs, to obtain blood-based tumor profiling services. NantHealth Labs is a related party, as it is a wholly owned subsidiary of NantHealth, Inc., a majority owned subsidiary of NantWorks. We are obligated to pay NantHealth Labs fixed, per-patient fees. The agreement has an initial term of five years and renews automatically for successive one-year periods, unless terminated earlier. During the years ended December 31, 2019 and 2018, $10,000 and $0.3 million, respectively, has been recognized in research and development expense on the consolidated statements of operations. There were no expenses associated with this agreement during the year ended December 31, 2020. As of December 31, 2020 and 2019, no balances were due between the parties.

11. Stockholders' Equity

Issuance of Common Stock – On June 29, 2020, the company closed an underwritten public offering of an aggregate of 8,521,500 shares of common stock, which included 4,811,500 shares issued to the public at a price of $9.50 per share (which includes 1,111,500 shares sold to the public upon full exercise of the underwriters' option to purchase additional shares at a public offering price of $9.50 per share), less underwriting discounts and commissions, and 3,710,000 shares issued to our Executive Chairman and principal stockholder, Dr. Patrick Soon-Shiong, at a price of $12.12 per share, less underwriting discounts and commissions. All of the shares were offered by the company. Including the underwriters' option exercise, the aggregate gross proceeds from the offering were $90.7 million, before deducting underwriting discounts, commissions and other offering expenses of $4.4 million.

Stock Repurchase – In November 2015, the board of directors approved a share repurchase program, or the 2015 Share Repurchase Program, allowing the CEO or CFO, on behalf of the company, to repurchase from time to time, in the open market or in privately negotiated transactions, up to $50.0 million of our outstanding shares of common stock, exclusive of any commissions, markups or expenses. The timing and amounts of any purchases were and will continue to be based on market conditions and other factors, including price, regulatory requirements and other corporate considerations. The 2015 Share Repurchase Program does not require the purchase of any minimum number of shares and may be suspended, modified, or discontinued at any time without prior notice. We have financed, and expect to continue to finance, the purchases with existing cash balances. The shares are formally retired through board approval upon repurchase.

To date, we have repurchased 6,403,489 shares of our common stock under the 2015 Share Repurchase Program at a total cost of $31.7 million. In addition, we have paid $0.1 million of broker commissions on repurchases. We did not repurchase any shares during the year ended December 31, 2020. During the years ended December 31, 2019 and 2018, we repurchased 473,586 shares for $0.5 million and 138,349 shares for $0.2 million, respectively. At December 31, 2020, $18.3 million remained authorized for repurchase under the 2015 Share Repurchase Program.

Common Stock Reserved for Future Issuance

We are authorized to issue up to 500,000,000 shares of our common stock, par value $0.0001 per share at December 31, 2020. As of December 31, 2020, there were 108,726,551 shares of our common stock issued and outstanding.

The following table summarizes the common shares reserved for issuance on exercise or vesting of various awards at December 31, 2020:

Outstanding stock options	3,518,010
Outstanding RSUs	466,842
Total shares reserved for future issuance	3,984,852

12. Stock-Based Compensation

2014 Equity Incentive Plan – In March 2014, the company's board of directors and stockholders approved the 2014 Equity Incentive Plan, or 2014 Plan, under which 11,109,000 shares of common stock were reserved for the granting of incentive stock options, within the meaning of Section 422 of the Internal Revenue Code, non-statutory stock options, stock appreciation rights, restricted stock awards, restricted stock units and performance awards to employees, directors and consultants. The maximum term of awards granted under the 2014 Plan is ten years. Recipients of stock awards are eligible to purchase shares of our common stock at an exercise price equal to no less than the estimated fair market value of such stock on the date of grant. As of December 31, 2020, there were approximately 1.1 million vested and exercisable options outstanding under the 2014 Plan, and there were no additional shares available for future grant.

2015 Equity Incentive Plan – In July 2015, the company's board of directors adopted and the company's stockholders approved the 2015 Equity Incentive Plan, or 2015 Plan. The 2015 Plan, as amended, permits the grant of incentive stock options to the company's employees, and for the grant of non-statutory stock options, restricted stock, restricted stock units, stock appreciation rights, performance units and performance shares to the company's employees, directors and consultants. The 2015 Plan is the only equity plan of the company available for future grant of equity awards to employees, directors and consultants of the company. In April 2019, the company's board of directors adopted, and in June 2019 the company's stockholders approved, a first amendment to the 2015 Plan to reserve a further 3,000,000 shares of common stock for issuance pursuant to the 2015 Plan. In March 2020, the company's board of directors adopted, and in June 2020 the company's stockholders approved, a second amendment to the 2015 Plan to reserve a further 3,000,000 shares of common stock for issuance pursuant to the 2015 Plan. As of December 31, 2020, a total of approximately 10.2 million shares of common stock were reserved for issuance pursuant to the 2015 Plan and a total of approximately 7.2 million shares were available for future grant. In addition, the number of shares reserved for future grant under the 2015 Plan include shares subject to stock options granted under the 2014 Plan that expire or terminate without having been exercised in full and shares issued pursuant to awards granted under the 2014 Plan that are forfeited to or repurchased by us (provided that the maximum number of shares that may be added to the 2015 Plan pursuant to this provision is approximately 1.1 million shares as of December 31, 2020).

Stock-Based Compensation

The following table presents all stock-based compensation as included on the consolidated statements of operations (in thousands):

	For the Year Ended December 31,		
	2020	2019	2018
Stock-based compensation expense:			
Warrants for common stock to an officer	$ —	$ —	$ 17,817
Employee stock options	1,388	1,309	4,057
Employee RSUs	629	938	1,193
Non-employee RSUs	122	380	315
	$ 2,139	$ 2,627	$ 23,382
Stock-based compensation expense in operating expenses:			
Research and development	$ 220	$ 499	$ 460
Selling, general and administrative	1,919	2,128	22,922
	$ 2,139	$ 2,627	$ 23,382

Stock Options

The following table summarizes stock option activity and related information under all equity incentive plans for the years ended December 31, 2020, 2019 and 2018:

	Number of Shares	Weighted-Average Exercise Price	Aggregate Intrinsic Value (in thousands)	Weighted-Average Remaining Contractual Life (in years)
Outstanding as of December 31, 2017	5,693,250	$ 7.71	$ 11,920	5.3
Options granted	800,000	$ 3.07		
Outstanding at December 31, 2018	6,493,250	$ 7.14	$ 563	4.8
Options exercised	(1,986,300)	$ 2.06		
Outstanding as of December 31, 2019	4,506,950	$ 9.37	$ 5,710	5.8
Options granted	400,000	$ 6.21		
Options exercised	(1,272,273)	$ 1.89		
Options forfeited	(116,667)	$ 3.07		
Outstanding as of December 31, 2020	3,518,010	$ 11.93	$ 21,922	5.5
Vested and Exercisable as of December 31, 2020	2,868,008	$ 13.50	$ 16,509	4.7

As of December 31, 2020, the unrecognized compensation cost related to outstanding stock options was $1.3 million, which is expected to be recognized over a remaining weighted-average period of 0.9 years.

For the years ended December 31, 2020, 2019 and 2018, there were 166,667, 343,810, and 462,875 stock options vested, respectively, with weighted-average exercises prices of $2.09, $3.51, and $8.45, respectively. The total intrinsic value of stock options exercised during the years ended December 31, 2020, 2019 and 2018 was $12.7 million, $0.2 million and $0.6 million, respectively.

Cash proceeds received from stock option exercises for the years ended December 31, 2020, 2019 and 2018 was $1.2 million, $4.1 million and $0, respectively.

As of December 31, 2019 and 2018, a total of 3,973,614 and 5,577,531 vested and exercisable shares were outstanding, respectively.

The following table provides a summary of options outstanding and vested as of December 31, 2020:

Exercise Prices	Number Outstanding	Weighted-Average Remaining Contractual Life (in years)	Number Exercisable	Weighted-Average Remaining Contractual Life (in years)
$0.4213	512,036	3.9	512,036	3.9
$1.7554	288,404	4.0	288,404	4.0
$1.9984	262,120	4.1	262,120	4.1
$3.07	600,000	7.7	349,998	7.7
$6.21	400,000	9.4	—	—
$25.00	1,455,450	4.6	1,455,450	4.6
	3,518,010	5.5	2,868,008	4.7

We may grant stock options to both employees and directors of the company and to employees of related parties that provide shared services to the company under the company's shared services agreement with NantWorks (Note 10). The fair value of each stock option issued was estimated at the date of grant using the Black-Scholes option pricing model with the following weighted-average assumptions:

	For the Year Ended December 31,		
	2020	2019	2018
Expected term (in years)	5.5	N/A	6.0 - 6.1
Risk-free interest rate	0.4%	N/A	2.8%
Expected volatility	96.8%	N/A	75.9%
Dividend yield	0.0%	N/A	0.0%
Weighted-average grant date fair value	$4.64	N/A	$2.09

The expected term was estimated using the average of the contractual term and the weighted-average vesting term of the options. The risk-free interest rate was based on the U.S. Treasury's rates for U.S. Treasury zero-coupon bonds with maturities similar to those of the expected term of the award being valued. For grants issued during 2020, the expected volatility was estimated based on the historical volatility of our common stock. For grants issued during 2018, the expected volatility was based on a weighted-average calculation of the company's common stock together with a peer group of comparable companies whose share prices are publicly available. The assumed dividend yield was based on the company's expectation of not paying dividends in the foreseeable future. There were no grants issued during 2019.

Restricted Stock Units

The following table summarizes the restricted stock units, or RSUs, activity under the 2015 Plan:

	Number of RSUs Outstanding	Weighted-Average Grant Date Fair Value
Unvested balance as of December 31, 2017	888,189	$ 8.14
Granted	487,472	$ 3.57
Vested	(172,330)	$ 6.16
Forfeited/canceled	(335,420)	$ 6.27
Unvested balance as of December 31, 2018	867,911	$ 6.69
Granted	749,793	$ 1.12
Vested	(395,051)	$ 8.83
Forfeited/canceled	(83,225)	$ 7.29
Unvested balance as of December 31, 2019	1,139,428	$ 2.23
Granted	33,500	$ 6.43
Vested	(648,336)	$ 2.04
Forfeited/canceled	(57,750)	$ 4.47
Unvested balance as of December 31, 2020	466,842	$ 2.52

We may grant RSUs to both employees and directors of the company and to employees of related parties that provide shared services to the company under the company's shared services agreement with NantWorks (Note 10). During the year ended December 31, 2018, we granted 90,906 RSUs to employees of related companies under our shared services agreement with NantWorks (Note 10). There were no grants made to non-employees during the years ended December 31, 2020 and 2019.

As of December 31, 2020, there was $0.6 million of unrecognized stock-based compensation expense related to RSUs that is expected to be recognized over a weighted-average period of 1.8 years. Of that amount, $0.6 million of unrecognized expense is related to employee grants with a remaining weighted-average period of 1.9 years and $6,400 of unrecognized expense is related to non-employee grants with a remaining weighted-average period of 0.2 years.

Warrants

The following table summarizes the company's warrant activity:

Outstanding as of December 31, 2017	17,721,088
Warrants exercised	(93,254)
Warrants expired	(38,584)
Outstanding as of December 31, 2018	17,589,250
Warrants exercised	(17,589,250)
Outstanding as of December 31, 2019	—

Cash proceeds recognized from exercises of warrants during the years ended December 31, 2019 and 2018, were $35.2 million and $0.1 million, respectively.

No warrants were issued during the years ended December 31, 2020, 2019 and 2018, and as of December 31, 2020 and 2019 there were no warrants outstanding.

13. Income Taxes

The amount of loss before taxes is as follows (in thousands):

	For the Year Ended December 31,		
	2020	2019	2018
U.S. loss before taxes	$ (92,412)	$ (65,286)	$ (94,423)
Foreign income (loss) before taxes	34	(600)	(2,306)
Loss before income taxes	$ (92,378)	$ (65,886)	$ (96,729)

Income tax (expense) benefit for the years ended December 31, 2020, 2019 and 2018 consist of the following (in thousands):

	For the Year Ended December 31,		
	2020	2019	2018
Current:			
Federal	$ —	$ —	$ —
State	(5)	(3)	(3)
Foreign	—	—	—
Total current	(5)	(3)	(3)
Deferred:			
Federal	—	79	—
State	—	21	8
Foreign	—	—	498
Total deferred	—	100	506
Income tax (expense) benefit	$ (5)	$ 97	$ 503

The components that comprise the company's net deferred tax assets at December 31, 2020 and 2019 consist of the following (in thousands):

	As of December 31,	
	2020	2019
Deferred tax assets:		
Net operating loss carryforwards	$ 105,537	$ 78,377
Stock compensation	7,699	8,536
Operating lease liabilities	4,254	3,884
Depreciation and amortization	4,128	2,042
Tax credits	898	898
Accrued compensation	762	775
Leases and other accrued liabilities	451	453
Other	1,419	—
Total deferred tax assets	125,148	94,965
Deferred tax liabilities:		
Operating lease right-of-use assets	(3,739)	(3,233)
Total deferred tax liabilities	(3,739)	(3,233)
Net deferred tax assets	121,409	91,732
Valuation allowance	(121,409)	(91,732)
Net deferred tax liability	$ —	$ —

A reconciliation of the federal statutory income tax rate to the company's effective income tax rate for the years ended December 31, 2020, 2019 and 2018 is as follows:

	For the Year Ended December 31,		
	2020	2019	2018
Tax computed at federal statutory rate	21.0 %	21.0 %	21.0 %
State income taxes, net of federal tax benefit	7.7	(19.4)	6.2
Tax rate adjustment	(0.1)	0.1	(0.3)
Research and development credits	0.1	0.2	0.1
Stock-based compensation	3.2	(82.5)	(0.1)
Other	0.2	(0.1)	0.3
Valuation allowance	(32.1)	80.5	(26.7)
Effective income tax rate	— %	(0.2)%	0.5 %

Pursuant to Internal Revenue Code Sections 382 and 383, annual use of the company's net operating loss and research and development credit carryforwards may be limited in the event a cumulative change in ownership of more than 50% occurs within a three-year period. We completed an Internal Revenue Code Section 382/383 analysis through March 2019 regarding the limitation of net operating loss and research and development credit carryforwards. As a result, we derecognized a portion of the deferred tax assets for net operating losses and federal and state research and development credits of $0.8 million from our deferred tax asset schedule as of December 31, 2020. There is no impact to tax expense for the derecognition of the net operating losses and federal and state research and development credits due to the valuation allowance recorded against the deferred tax assets. Additionally, we have not recognized the deferred tax asset for research and development credit carryforwards as of December 31, 2020 and 2019 because we are a part of a controlled group of affiliated companies with common ownership and cannot complete our calculation of the credit until the time that all members of the controlled group complete their analysis and calculation of qualified research expenditures.

In assessing the realization of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in making this assessment. Based on the level of historical operating results and the uncertainty of the economic conditions, we have recorded a full valuation allowance of $121.4 million at December 31, 2020. The change in the valuation allowance for the year ended December 31, 2020 was an increase of $29.7 million which was mainly driven by losses for which the company cannot benefit. The portion of the valuation allowance for deferred tax assets for which subsequently recognized tax benefits will be credited directly to contributed capital is $0.2 million.

At December 31, 2020, the company has federal net operating losses, or NOLs, of $389.8 million, state NOLs of $350.3 million, and foreign NOLs of $0.2 million. Of the $389.8 million in federal NOLs, $226.4 million will not expire and will be able to offset 80% of taxable income in future years. Of the $350.3 million in state NOLs, $4.4 million will not expire and will be able to offset 80% of taxable income in future years. The remaining federal NOL carryforwards begin to expire in 2024, the remaining state NOL carryforwards begin to expire in 2030 and the foreign NOL carryforwards begin to expire in 2022. At December 31, 2020, the company also had federal research tax credit carryforwards of $11.1 million and state research tax credits of $7.8 million. The federal research tax credit carryforwards begin to expire in 2034 and certain state research tax credit carryforwards begin to expire in 2031. The California research tax credits can be carried forward indefinitely.

On March 27, 2020, the Coronavirus Aid, Relief and Economic Security Act, or the CARES Act, was signed into law in response to the economic challenges facing U.S. businesses. Under the CARES Act, the Internal Revenue Code was amended to allow for federal NOL carrybacks for five years to offset previous years income, or the federal NOLs can be carried forward indefinitely to offset 100% of taxable income for tax year 2020 and 80% of taxable income for tax years 2021 and thereafter.

On June 29, 2020, the state of California enacted Assembly Bill No. 85 (AB 85) suspending California net operating loss utilization and imposing a cap on the amount of business incentive tax credits companies can utilize, effective for tax years 2020, 2021 and 2022. There was no material impact from the provisions of AB 85 in 2020.

The following table summarizes the changes to the amount of unrecognized tax benefits (in thousands):

Unrecognized tax benefits as of December 31, 2018	$	11,983
Decrease for prior year tax positions		(7)
Increase for current year tax positions		3,680
Unrecognized tax benefits as of December 31, 2019		15,656
Decrease for prior year tax positions		(6)
Increase for current year tax positions		4,763
Unrecognized tax benefits as of December 31, 2020	$	20,413

Included in the balance of unrecognized tax benefits at December 31, 2020, is $18.3 million that, if recognized, would not impact our income tax benefit or effective tax rate as long as the deferred tax asset remains subject to a full valuation allowance. We do not expect that the unrecognized tax benefits will change within 12 months of this reporting date. Due to the existence of the valuation allowance, future changes in our unrecognized tax benefits will not impact the company's effective tax rate.

We have not incurred any material interest or penalties as of the current reporting date with respect to income tax matters.

We are subject to U.S. federal income tax and various state income taxes. The federal returns for tax years 2017 through 2020 remain open to examination and the state returns remain subject to examination for tax years 2016 through 2020. Carryforward attributes that were generated in years where the statute of limitations is closed may still be adjusted upon examination by the Internal Revenue Service or other respective tax authority. All other state jurisdictions remain open to examination.

Prior to the adoption of ASU 2019-12 in the first quarter of 2020, as described in Note 2, intraperiod tax allocation rules required us to allocate the provision for income taxes between continuing operations and other categories of earnings, such as other comprehensive income. In periods in which we had a year-to-date pre-tax loss from continuing operations and pre-tax income in other categories of earnings, such as other comprehensive income, we had to allocate the tax provision to the other categories of earnings. We then recorded a related tax benefit in continuing operations. However, with the adoption of ASU 2019-12, we are no longer required to allocate the tax provision to the other categories of earnings and related benefit to continuing operations under these circumstances.

14. Summarized Quarterly Data (Unaudited)

The following financial information reflects all normal recurring adjustments that are, in the opinion of management, necessary for a fair statement of the results of the interim periods.

The table below presents unaudited quarterly data for years ended December 31, 2020 and 2019 (in thousands, except for share and per share amounts):

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
2020				
Revenue	$ 21	$ 1	$ 68	$ 21
Operating expenses	18,607	20,228	21,995	30,907
Operating loss	(18,586)	(20,227)	(21,927)	(30,886)
Net loss	(18,383)	(20,092)	(21,776)	(32,132)
Net loss per share - basic and diluted	$ (0.19)	$ (0.20)	$ (0.20)	$ (0.30)
Shares used in calculating net loss per share - basic and diluted	98,472,641	98,769,687	108,246,579	108,607,715

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
2019				
Revenue	$ 5	$ 17	$ 12	$ 9
Operating expenses	18,340	17,313	16,077	16,120
Operating loss	(18,335)	(17,296)	(16,065)	(16,111)
Net loss	(17,885)	(16,682)	(15,581)	(15,641)
Net loss per share - basic and diluted	$ (0.22)	$ (0.17)	$ (0.16)	$ (0.16)
Shares used in calculating net loss per share - basic and diluted	81,261,302	98,594,355	98,331,695	98,419,166

15. Employee Benefits

Defined Contribution Benefit Plan – In December 2015, the company adopted a 401(k) retirement and savings plan, or the 401(k) Plan, covering all employees. The 401(k) Plan allows employees to make pre- and post-tax contributions up to the maximum allowable amount set by the Internal Revenue Service. The company, at its discretion, may make certain contributions to the 401(k) Plan. We made contributions of $0.5 million, $0.6 million and $0.5 million during the years ended December 31, 2020, 2019 and 2018, respectively.

Compensated Absences – Under our vacation policy, salaried employees are provided unlimited vacation leave. Therefore, we do not record an accrual for paid leave related to these employees since we are unable to reasonably estimate the compensated absences that these employees will take.

16. Subsequent Event

Related Party Lease Agreement

In February 2021, but effective on January 1, 2021, we entered into a lease agreement with 605 Nash, LLC, whereby we leased approximately 6,883 square feet in El Segundo, California. 605 Nash, LLC is a related party, as it is owned by our Executive Chairman and principal stockholder, Dr. Patrick Soon-Shiong. This facility will be used primarily for pharmaceutical development and manufacturing purposes. The lease runs from January 2021 through December 2027, and includes an option to extend the lease for an additional three year term through December 2030. Base rent for the term of the lease is approximately $20,300 per month with an annual increase of 3% on January 1 of each year during the initial term and, if applicable, during the option term. In addition, under the agreement, we are required to pay our share of estimated property taxes and operating expenses, both of which are variable lease expenses.

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

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Management, with the participation of its Chief Executive Officer, or CEO, and Chief Financial Officer, or CFO, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2020. The term "disclosure controls and procedures," as defined in Rule 13a-15(e) of the Securities Exchange Act of 1934, or the Exchange Act, means controls and other procedures of a company that are designed to provide reasonable assurance that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to provide reasonable assurance that information required to be disclosed is accumulated and communicated to our management, including our CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their desired control objectives, and management necessarily is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of December 31, 2020, our CEO and CFO have concluded that, as of December 31, 2020, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Rule 13a-15(f) under the Exchange Act. Internal control over financial reporting is a process designed under the supervision and with the participation of our management, including our CEO and CFO, 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. Our internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (ii) provide reasonable assurance (a) transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, (b) our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (c) regarding the prevention or timely detection of the unauthorized acquisition, use or disposition of assets that could have a material effect on our 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.

As of December 31, 2020, our management conducted an evaluation of the effectiveness of our internal control over financial reporting using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control - Integrated Framework (2013). Based on this evaluation, our management concluded that, as of December 31, 2020, our internal control over financial reporting was effective.

This annual report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by our registered public accounting firm pursuant to rules of the Securities and Exchange Commission that permit us to provide only management's report in this annual report.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting that occurred during the last fiscal quarter ended December 31, 2020, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Effectiveness of Controls

Management recognizes that a control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud or error, if any, have been detected. These inherent limitations include the realities that judgments in decision making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the controls. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this item will be contained in our definitive proxy statement to be filed with the Securities and Exchange Commission on Schedule 14A in connection with our 2021 Annual Meeting of Stockholders, or the Proxy Statement, which is expected to be filed not later than 120 days after the end of our fiscal year ended December 31, 2020, and is incorporated herein by reference.

Item 11. Executive Compensation.

The information required by this item will be contained in the Proxy Statement under the headings “Executive Compensation” and “Board of Directors and Corporate Governance – Director Compensation,” and is incorporated herein by reference.

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

The information required by this item will be contained in the Proxy Statement under the headings “Security Ownership of Certain Beneficial Owners and Management” and “Executive Compensation – Equity Compensation Plan Information,” and is incorporated herein by reference.

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

The information required by this item will be contained in the Proxy Statement under the headings “Certain Relationships and Related Party Transactions” and “Board of Directors and Corporate Governance,” and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services.

The information required by this item will be contained in the Proxy Statement under the heading “Ratification of Appointment of Independent Registered Public Accounting Firm – Fees Paid to the Independent Registered Public Accounting Firm” and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

The consolidated financial statements schedules and exhibits filed as part of this Annual Report on Form 10-K, or Annual Report, are as follows:

(1) Consolidated financial statements

Reference is made to the consolidated financial statements identified in the "Index to Financial Statements" under Part II, Item 8 of this Annual Report.

(2) Financial Statement Schedules

All other schedules not listed above have been omitted because the information required to be set forth therein is not applicable or is otherwise on the consolidated financial statements or notes thereto.

(3) Exhibits

The documents listed in the Exhibit Index of this Annual Report are incorporated by reference or are filed with this Annual Report, in each case as indicated therein (numbered in accordance with Item 601 of Regulation S-K).

Exhibit Index

Exhibit Number	Description	Incorporated by Reference Herein			
		Form	File No.	Exhibit	Filing Date
2.1	Agreement and Plan of Merger, dated December 21, 2020, by and among NantKwest, Inc., ImmunityBio, Inc. and Nectarine Merger Sub, Inc.	8-K	001-37507	2.1	December 22, 2020
3.1	Amended and Restated Certificate of Incorporation of NantKwest, Inc.	8-K	001-37507	3.1	August 4, 2015
3.2	Amended and Restated Bylaws of NantKwest, Inc., effective as of June 18, 2020.	8-K	001-37507	3.1	June 19, 2020
4.1	Nominating Agreement by and between the Registrant and Cambridge Equities, LP, dated June 18, 2015.	S-1	333-205124	4.1	June 19, 2015
4.2	Form of Registration Rights Agreement by and between the Company and the Purchasers of Common Stock, dated June 2015.	S-1	333-205124	4.2	June 19, 2015
4.3	Registration Rights Agreement by and between the Company and Cambridge Equities LP, dated December 23, 2014.	S-1	333-205124	4.3	June 19, 2015
4.4	Form of Subscription and Securities Purchase Agreement among the Company and the Subscribers of Series C Preferred Stock, dated as of April 1, 2014.	S-1	333-205124	4.5	June 19, 2015
4.5	Registration Rights Agreement, among the Company and the purchasers of Series B Preferred Stock, dated as of June 20, 2013.	S-1	333-205124	4.6	June 19, 2015
4.6	Specimen common stock certificate.	S-1/A	333-205124	4.7	July 15, 2015
4.7	Description of the Registrant's Securities.	10-K	001-37507	10.26	March 25, 2020
10.1	Form of Indemnification Agreement between the Company and each of its directors and executive officers.	S-1	333-205124	10.1	June 19, 2015
10.2+	2014 Equity Incentive Plan and forms of agreements thereunder.	S-1	333-205124	10.2	June 19, 2015
10.3+	2015 Equity Incentive Plan (as Amended and Restated June 10, 2020) and all forms and agreements thereunder.	10-Q	001-37507	10.1	August 7, 2020
10.4+	Executive Incentive Compensation Plan.	S-1/A	333-205124	10.4	July 15, 2015
10.5+	Amended and Restated Executive Employment Agreement between the Company and Patrick Soon-Shiong, effective March 24, 2015.	S-1/A	333-205124	10.5	July 15, 2015

Exhibit Number	Description	Incorporated by Reference Herein			
		Form	File No.	Exhibit	Filing Date
10.6+	Executive Employment Agreement between the Company and Barry J. Simon, M.D., dated January 1, 2015.	S-1	333-205124	10.6	June 19, 2015
10.7	License Agreement between the Company and Brink Biologics, Inc., dated June 9, 2015.	S-1	333-205124	10.7	June 19, 2015
10.8	License Agreement between the Company and Coneksis, Inc., dated June 9, 2015.	S-1	333-205124	10.8	June 19, 2015
10.9	License Agreement between the Company and Intrexon Corporation, dated February 23, 2010.	S-1	333-205124	10.10	June 19, 2015
10.10	UHN-ZelleRx License Agreement between University Health Network and the Company, dated May 9, 2005.	S-1	333-205124	10.11	June 19, 2015
10.11	License Agreement, as amended, between Fox Chase Cancer Center and the Company, dated as of July 10, 2004.	S-1	333-205124	10.12	June 19, 2015
10.12	Rush-ZelleRx License Agreement, between Rush University Medical Center and the Registrant, dated as of March 24, 2004.	S-1	333-205124	10.13	June 19, 2015
10.13	License Agreement, as amended, between Hans G. Klingemann and the Company, dated February 10, 2003.	S-1/A	333-205124	10.14	July 27, 2015
10.14	Genomic and Proteomic Services Agreement by and between the Company and NantOmics, LLC, dated June 18, 2015.	S-1	333-205124	10.18	June 19, 2015
10.15	Lease Agreement by and between ARE - John Hopkins Court, LLC and the Company, dated June 19, 2015.	S-1/A	333-205124	10.19	July 27, 2015
10.16	Shared Services Agreement by and between the Company and NantWorks, LLC, dated November 10, 2015.	10-K	001-37507	10.22	March 30, 2016
10.17	Facility License Agreement by and between the Company and NantWorks, LLC, dated November 10, 2015.	10-K	001-37507	10.23	March 30, 2016
10.18+	Offer Letter between Sonja Nelson and the Company, dated April 7, 2016.	10-Q	001-37507	10.1	May 16, 2016
10.19	Amended and Restated Shared Services Agreement by and between the Company and NantWorks LLC, dated June 28, 2016.	10-Q	001-37507	10.1	August 15, 2016
10.20	Lease agreement by and between the Company and 605 Doug Street, LLC, dated June 28, 2016.	10-Q	001-37507	10.1	November 10, 2016
10.21+	Letter Agreement with Barry Simon dated May 3, 2018.	10-Q	001-37507	10.1	August 06, 2018
10.22+	Offer of Employment Letter with Sonja Nelson dated June 11, 2018.	10-Q	001-37507	10.2	August 06, 2018
10.23	Notice of Pendency of Proposed Settlement of Stockholder Derivative Action dated May 31, 2019.	8-K	001-37507	99.1	June 10, 2019
10.24	Stipulation and Agreement of Settlement dated April 10, 2019.	8-K	001-37507	99.2	June 10, 2019
10.25	Letter Agreement between the Company and Immuno-Oncology Clinic, Inc., dated July 5, 2019.	10-Q	001-37507	10.4	August 6, 2019
10.26	Cost Allocation Agreement between the Company and ImmunityBio, Inc. and its subsidiaries, dated January 29, 2020.	10-K	001-37507	10.26	March 25, 2020
10.27	First Amendment to the July 1, 2019 Letter Agreement between the Company and Immuno-Oncology Clinic, Inc., dated March 31, 2020.	10-Q	001-37507	10.1	May 5, 2020
10.28	COVID Joint Development, Manufacturing, and Marketing Agreement between NantKwest, Inc. and ImmunityBio, Inc. Binding Term Sheet, dated May 22, 2020.	10-Q	001-37507	10.2	August 7, 2020

Exhibit Number	Description	Incorporated by Reference Herein			
		Form	File No.	Exhibit	Filing Date
10.29	COVID Joint Development, Manufacturing, and Marketing Agreement between NantKwest, Inc. and ImmunityBio, Inc., dated August 21, 2020.	10-Q	001-37507	10.1	November 9, 2020
10.30	First Amendment to Facility License Agreement by and between NantWorks, LLC and NantKwest, Inc., dated September 14, 2020.	10-Q	001-37507	10.2	November 9, 2020
10.31	Sublease Agreement between Altor Bioscience Manufacturing Company, LLC and NantKwest, Inc., dated September 14, 2020.	10-Q	001-37507	10.3	November 9, 2020
10.32+	Offer Letter between the Company and Richard Adcock, dated October 26, 2020.	10-Q	001-37507	10.4	November 9, 2020
10.33	Voting Agreement, dated December 21, 2020, by and among ImmunityBio, Inc., NantKwest, Inc., and the NantKwest, Inc. stockholders party thereto.	8-K	001-37507	10.1	December 22, 2020
10.34	Voting Agreement, dated December 21, 2020, by and among NantKwest, Inc., ImmunityBio, Inc. and the ImmunityBio, Inc. stockholders party thereto.	8-K	001-37507	10.2	December 22, 2020
10.35*	Lease Agreement between 605 Nash, LLC and NantKwest, Inc., dated February 11, 2021.				
21.1*	Subsidiaries.				
23.1*	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.				
24.1*	Power of Attorney (Contained on Signature Page to this Annual Report on Form 10-K).				
31.1*	Rule 13a-14(a) / 15d-14(a) Certification of Principal Executive Officer.				
31.2*	Rule 13a-14(a) / 15d-14(a) Certification of Principal Financial Officer.				
32.1**	Section 1350 Certification of Chief Executive Officer.				
32.2**	Section 1350 Certification of Chief Financial Officer.				
101.INS	Inline XBRL Instance Document (the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document).				
101.SCH	Inline XBRL Taxonomy Extension Schema Document				
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.				
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.				
101.LAB	Inline XBRL Taxonomy Extension Labels Linkbase Document.				
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.				
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).				

* Filed herewith.

** The certifications attached as Exhibits 32.1 and 32.2 that accompany this Annual Report, are deemed furnished and not filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of NantKwest, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report, irrespective of any general incorporation language contained in such filing.

\+ Indicates a management contract or compensatory plan.

Item 16. Form 10-K Summary.

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

NantKwest, Inc.

Date: March 4, 2021

By: /s/ Richard Adcock
Richard Adcock
Chief Executive Officer

POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints Richard Adcock and Sonja Nelson, and each of them, as his or her true and lawful attorney-in-fact and agent, 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 on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said 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 or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes, may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Patrick Soon-Shiong **Patrick Soon-Shiong**	Executive Chairman of the Board of Directors	March 4, 2021
/s/ Richard Adcock **Richard Adcock**	Chief Executive Officer *(Principal Executive Officer)*	March 4, 2021
/s/ Barry J. Simon **Barry J. Simon**	President, Chief Administrative Officer and Director	March 4, 2021
/s/ Sonja Nelson **Sonja Nelson**	Chief Financial Officer *(Principal Financial and Accounting Officer)*	March 4, 2021
/s/ Michael D. Blaszyk **Michael D. Blaszyk**	Director	March 4, 2021
/s/ Frederick W. Driscoll **Frederick W. Driscoll**	Director	March 4, 2021
/s/ John C. Thomas, Jr. **John C. Thomas, Jr.**	Director	March 4, 2021
/s/ Cheryl L. Cohen **Cheryl L. Cohen**	Director	March 4, 2021

COMMERCIAL LEASE
(605-607 Nash Street)
(6,883 rsf)

This Commercial Lease (this "Lease") dated February 11, 2021, but made effective as of January 1, 2021 (the "Effective Date"), is made by and between 605 NASH, LLC, a California limited liability company ("Landlord") and NANTKWEST, INC., a Delaware corporation ("Tenant").

ARTICLE 1
BASIC PROVISIONS

1.1 Premises, Project and Common Areas.

(a) Premises. That certain real property, including all improvements therein, consisting of approximately 6,883 rentable square feet (the "Premises") in the building commonly known as 605-607 Nash Street, El Segundo California (the "Building") all as depicted on Exhibit A attached hereto. The Building is a two story mixed use building containing consisting of approximately 65,000 rentable square feet.

(b) Project. The Building and Premises is set on approximately 87,120 square feet of land in the City of El Segundo (the "Project"). The term "Project" as used in this Lease, shall mean, collectively: (i) the Building; (ii) all Common Areas (as defined below); (iii) any additional improvements, facilities and common areas which Landlord may add thereto from time to time within or as part of the Project, including landscaping and hardscaping; and (iv) the land upon which any of the foregoing are situated. Notwithstanding the foregoing or anything contained in this Lease to the contrary, (A) Landlord has no obligation to expand or otherwise make any improvements within the Project, and (B) Landlord shall have the right from time to time to include or exclude any improvements or facilities within the Project. Landlord reserves the right to close temporarily, make alterations or additions to, or change the location, dimensions, identities and types of any buildings, signs or other improvements that constitute the Project and the Common Areas.

(c) Common Areas. Tenant shall have the non-exclusive right to use in common with the Landlord or other tenants in the Project, those portions of the Project which are provided, from time to time, for use in common by Landlord, Tenant and any other tenants of the Project, including certain walkways, driveways, courtyards, landscaped and hardscaped areas and other improvements and facilities now or hereafter constructed surrounding, which are designated from time to time by Landlord, in its absolute discretion, as common areas to be shared by Landlord, Tenant and other tenants of the Project (collectively, the "Common Areas"). The manner in which the Common Areas are maintained and operated shall be at the reasonable discretion of Landlord and the use thereof shall be subject to such reasonable and customary rules, regulations and restrictions as Landlord may make from time to time. Landlord reserves the right to (i) make any changes, additions, improvements, repairs and/or replacements in or to the Project or the Common Areas, including, without limitation, expanding or decreasing the size of the Project and any Common Areas and other elements thereof, including adding, deleting and/or excluding buildings thereon and therefrom; (ii) close temporarily any of the common areas while engaged in making repairs, improvements or alterations to the Project, as long as such changes do not prevent Tenant's ingress to or egress from the Premises; or (iii) perform such other acts and make such other changes with respect to the Project as Landlord may, in the exercise of good faith business judgment, deem to be appropriate. Subject to Landlord's reasonable rules, regulations and requirements and applicable laws, Tenant shall have the non-exclusive right to use the Building's shafts, risers or conduits for the installation and maintenance of conduits and cables for communications, data processing devices and other facilities consistent with Tenant's use of its Premises.

1.2 Term; Option Term

(a) The term of this lease ("Term") shall commence January 1, 2021 ("Commencement Date"). The term of this lease shall expire seven (7) years following the Commencement Date (i.e., December 31, 2027), subject to the Options set forth below ("Expiration Date"). At any time during the Lease Term, Landlord may deliver to Tenant a Notice of Lease Term Dates in the form as set forth in Exhibit C, attached hereto, as a confirmation only of the information set forth therein, which Tenant shall execute and return to Landlord within five (5) days of receipt thereof.

(b) Subject to the terms hereof, Landlord hereby grants to Tenant one (1) option to extend the Term (the "Option") with respect to all of the then Premises for an additional three (3) year (the "Option Term"), under the terms of this Lease, which Option shall be exercisable only by written notice delivered by Tenant to Landlord as provided below, provided that, as of the date of delivery of such notice, no uncured Default exists under this Lease. Notwithstanding the foregoing or anything to the contrary herein, the extension of the Term by the written agreement of Landlord and Tenant shall not serve to extinguish or cancel a then unexercised Option, but rather the unexercised Option shall apply to the end of such Term as extended by written agreement. Upon the proper exercise of the Option, and provided that, as of the end of the initial Term no uncured Default exists under this Lease, the Term, as it applies to the Premises, shall be extended for the Option Term.

(c) The monthly base rent payable by Tenant during the first year of the Option Term shall initially be 103% of the base rent payable under this Lease immediately prior to the commencement of the Option Term and thereafter such monthly Base Rent shall be subject to the Annual Increase (as defined below) set forth in Section 1.3 below.

(d) The Option contained in this Section 1.2 shall be exercised by Tenant, if at all, only in the manner set forth in this Section 1.2. In order to exercise the Option, Tenant shall deliver an irrevocable written notice (the "Exercise Notice") to Landlord not less than twelve (12) months and no earlier than eighteen (18) months prior the expiration of the Term, stating that Tenant has elected to exercise its Option. Nothing herein shall be deemed to entitle Tenant to extend the Lease Term beyond the Option Term. If Tenant does not exercise the Option during the exercise periods set forth above in strict accordance with the provisions hereof, the Option shall forever terminate and be of no further force or effect.

1.3 Base Rent. The initial monthly base rent for the lease of the Premises shall be $2.95 per rentable square foot of the Premises as set forth below ("Base Rent") (subject to abatement of rent pursuant to Section 4.3) and shall be increased by three percent (3%) annually commencing on the Commencement

Date and each year thereafter during the initial Term and, if applicable, during the Option Terms (the "Annual Increase"), all as set forth below:

Lease Period	Monthly Installment of Base Rent
January 1, 2021 –December 31, 2021	$20,304.85*
January 1, 2022 –December 31, 2022	$20,914.00
January 1, 2023 –December 31, 2023	$21,541.42
January 1, 2024 –December 31, 2024	$22,187.66
January 1, 2025 –December 31, 2025	$22,853.29
January 1, 2026 –December 31, 2026	$23,538.89
January 1, 2027 –December 31, 2027	$24,245.05

*The monthly Base Rent shall be subject to rent abatement as set forth in Section 4.3 of this Lease.

1.4 Parking. Commencing on Commencement Date, Tenant shall have the right to use up to five (5) unreserved parking spaces at the Project free of charge.

1.5 Payment by Tenant Upon Execution. Upon execution of this Lease, Tenant shall pay the Security Deposit (defined below).

1.6 Security Deposit. One (1) month's Base Rent ("Security Deposit").

1.7 Agreed Use. The Premises shall be used for pharmaceutical development and manufacturing, ancillary office, and other related uses consistent with the character of the Premises and otherwise in compliance with the provisions of Section 6 hereof ("Agreed Use").

1.8 Tenant Improvement Allowance. $313,176.50 (based on $6.50 per rentable square foot of the Premises per year of lease Term) ("Tenant Improvement Allowance") for costs and expenses associated with the construction of the initial tenant improvements in the Premises that are to be constructed by Tenant pursuant to the terms and conditions set forth in the Work Letter, attached hereto as Exhibit B (the "Work Letter").

1.9 Base Rent Abatement Period. Seven (7) months ("Base Rent Abatement Period"). See Section 4.3.

ARTICLE 2
PREMISES

2.1 Letting. Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, the Premises, for the Term, at the rental, and upon all of the terms, covenants and conditions set forth in this Lease. Unless otherwise provided herein, any statement of size set forth in this Lease, or that may have been used in calculating rental, is an approximation that the parties agree is reasonable and the rental based thereon is not subject to revision whether or not the actual size is more or less.

2.2 Condition. Landlord shall deliver the Premises to Tenant broom clean and free of debris on the Commencement Date. Landlord represents that the existing electrical, plumbing, fire sprinkler, lighting, heating, ventilating and air conditioning systems ("HVAC") shall be in good operating condition on the Commencement Date and that the structural elements of the roof, bearing walls and foundation of the buildings in which the Premises is located (the "Building") shall be free of material defects on the Commencement Date. The taking of possession of the Premises by Tenant shall conclusively establish that the Premises, the Building and the Project were at such time complete and in good, sanitary and satisfactory condition and without any obligation on Landlord's part to make any alterations, upgrades or improvements thereto.

2.3 Compliance. Landlord warrants that to its actual knowledge the improvements on the Premises comply with the building codes, applicable laws, covenants or restrictions of record, regulations, and ordinances ("Applicable Requirements") that were in effect at the time that each improvement, or portion thereof, was constructed. Said warranty does not apply to the use to which Tenant will put the Premises, modifications which may be required by the Americans with Disabilities Act or any similar laws as a result of Tenant's use, any installation of Improvements made pursuant to the Work Letter or to any Alterations made or to be made by Tenant.

2.4 Acknowledgments. Except as specifically set forth in this Lease and in the Work Letter, Tenant shall accept the Premises, including the base, shell, and core of the Building (collectively, the "Base, Shell, and Core") in their "AS-IS" condition as of the Commencement Date and Landlord shall not be obligated to provide or pay for any improvement work or services related to the improvement of the Premises. Tenant also acknowledges that Landlord has made no representation or warranty regarding the condition of the Premises or with respect to the suitability of any of the foregoing for the conduct of Tenant's business, except as specifically set forth in this Lease and the Work Letter. The taking of possession of the Premises by Tenant shall conclusively establish that the Premises is at such time in good and sanitary order, condition and repair.

2.5 Net Lease. The obligations of Tenant hereunder shall be separate and independent covenants. This is a net lease and Rent and all other sums payable hereunder by Tenant shall be paid without notice or demand, and without setoff, counterclaim, recoupment, abatement, suspension or reduction, or defense. This Lease is the absolute and unconditional obligation of Tenant, and the obligations of Tenant under this Lease shall not be affected by any interference with Tenant's use of the premises for any reason subject only to: (i) any damage to or destruction of the Premises, as provided in Article 9 of this Lease, or (ii) any condemnation or eminent domain, as provided in Article 14 of this Lease. All costs and expenses of every kind and nature whatsoever relating to the Premises (other than depreciation, interest on or amortization of debt incurred by Landlord, and costs incurred by Landlord in financing or refinancing the Premises) and the appurtenances thereto and the use and occupancy thereof which may arise or become due and payable with respect to the period which ends on the expiration or earlier termination of the Term in accordance with the provisions hereof (whether or not the same shall become payable during the Term or thereafter) shall be paid by Tenant. Tenant shall pay all expenses related to the maintenance, repair, management, or operations of the Premises as set forth in this Lease. Except as provided in Section 4.3, Tenant shall not have any right to abate Rent or other sums payable hereunder by Tenant during the Term.

2.6 Expansion Option. Provided Tenant is not in Default under any term or provision contained in this Lease (beyond any applicable notice and cure period), Tenant shall have the right, exercisable by delivering written notice to Landlord, to expand the Premises (the "Expansion Option") to include all or any portion of the remainder of the Building ("Expansion Premises"), which Expansion Premises; provided, however, the Expansion Option shall terminate and be of no further force and affect upon the earlier to occur of: (a) eighteen (18) months following the Commencement Date of this Lease (i.e., June 30, 2022), and (b) thirty (30) days following the date Landlord notifies Tenant that Landlord has either

countered a bona fide offer or responded to a request for proposal to lease the Expansion Premises to a third-party tenant. If Tenant exercises the Expansion Option then (x) the Base Rent for the Expansion Premises shall be $2.95 per rentable square foot per month on a triple net basis with pro-rated initial Premises concessions (i.e. Base Rent Abatement, Tenant Improvement Allowance) and proportionate increases in the parking allotment and security deposit, and (y) the Tenant and Landlord shall enter into an amendment to this Lease to memorialize the terms of the expansion of the Premises.

ARTICLE 3
TERM

3.1 Term. The Commencement Date, Expiration Date and Term of this Lease are as specified in Section 1.2 above.

3.2 Delay in Possession. Landlord agrees to use its commercially reasonable efforts to deliver possession of the Premises to Tenant by the Commencement Date. If, despite said efforts, Landlord is unable to deliver possession by such date, Landlord shall not be subject to any liability therefor, nor shall such failure affect the validity of this Lease or change the Expiration Date.

ARTICLE 4
RENT

4.1 Rent Defined. All monetary obligations of Tenant to Landlord under the terms of this Lease, including without limitation, Base Rent and Operating Expenses, and all taxes, costs, expenses and other amounts that Tenant is required to pay pursuant to this Lease to any other party, together with every fine, penalty, interest and costs which may be added for late payment thereof (except for the Security Deposit), are deemed to be rent ("Rent").

4.2 Payment. Tenant shall cause payment of Rent to be received by Landlord in lawful money of the United States, without offset or deduction, on or before the day on which it is due; provided, however, that monthly Base Rent and any other Rent payable on a monthly basis shall be payable in advance on or before the first (1st) day of each month during the Term. Rent for any period during the term hereof which is for less than one (1) full calendar month shall be prorated based upon the actual number of days of said month. Payment of Rent shall be made to Landlord at its address stated herein or to such other persons or place as Landlord may from time to time designate in writing. Acceptance of a payment which is less than the amount then due shall not be a waiver of Landlord's rights to the balance of such Rent, regardless of Landlord's endorsement of any check so stating. In the event that any check, draft, or other instrument of payment given by Tenant to Landlord is dishonored for any reason, Tenant agrees to pay to Landlord the sum of $25 in addition to any late charge and Landlord, at its option, may require all future Rent be paid by cashier's check. Payments will be applied first to accrued late charges and attorneys' fees, second to accrued interest, then to Base Rent, insurance and Real Property Taxes, and any remaining amount to any other outstanding charges or costs.

4.3 Monthly Base Rent Abatement. Notwithstanding anything in Section 4.1 above to the contrary and provided that Tenant is not then in default under this Lease (beyond any applicable notice and cure period), Landlord hereby agrees to abate Tenant's obligation to pay monthly Base Rent due under this Lease for the Premises (the "Base Rent Abatement") for the Base Rent Abatement Period. Tenant acknowledges and agrees that the Base Rent Abatement has been granted to Tenant as additional consideration for entering into this Lease, and for agreeing to pay the rental and performing the terms and conditions otherwise required under this Lease. If Tenant shall be in default under this Lease, and shall fail to cure such default within the notice and cure period, if any, permitted for cure pursuant to this Lease, or if this Lease is terminated for any reason other than Landlord's breach of the Lease, then Tenant shall

immediately become obligated to pay to Landlord all of the Base Rent Abatement amount abated hereunder during the Base Rent Abatement Period with interest as provided in this Lease from the date such Base Rent Abatement amount would have otherwise been due under this Lease but for the Base Rent Abatement Period provided herein.

4.4 Operating Expenses. Tenant shall be responsible for, and shall pay to Landlord, as additional rent, Tenant's Pro Rata Share of Operating Expenses (as defined below) for the Project.

4.5 "Operating Expenses" shall mean all expenses, costs and amounts of every kind and nature which Landlord pays or accrues because of or in connection with the ownership, management, insurance maintenance, security, repair, replacement, restoration or operation of the Building and the Project, or any portion thereof, including, without limitation, (i) the cost of supplying all utilities, the cost of operating, repairing, maintaining, and renovating the utility, telephone, mechanical, sanitary, and storm drainage; (ii) the cost of licenses, certificates, permits and inspections; (iii) the cost of all insurance carried by Landlord or the property manager of Landlord in connection with the Project as set forth in Article 8t; (iv) the cost of landscaping, relamping, all supplies, tools, equipment and materials used in the operation, repair and maintenance of the Project, or any portion thereof; (v) costs incurred in connection with the parking areas servicing the Project; (vi) fees and other costs, including management fees, consulting fees, legal fees and accounting fees, of all contractors and consultants in connection with the management, operation, maintenance or security of the Project; (vii) payments under any equipment rental agreements and the fair rental value of any management office space and the cost of furnishings in such management office space; (viii) wages, salaries and other compensation and benefits, including taxes levied thereon, of all persons engaged in the operation, maintenance and security of the Project; (ix) operation, repair, maintenance and replacement of all systems and equipment and components thereof of the Building and/or the Project; (x) the cost of janitorial, alarm, security and other services; (xi) the cost for maintenance and replacement of curbs and walkways, repair to roofs and re-roofing; (xii) amortization of the cost of acquiring or the rental expense of personal property used in the maintenance, operation and repair of the Project, or any portion thereof; and (xiii) the cost of capital improvements or other costs incurred in connection with the Project (A) which are intended to effect economies in the operation or maintenance of the Project, or any portion thereof, or (B) that are required under any governmental law or regulation; provided, however, that any capital expenditure shall be amortized with interest over the lesser of its useful life or, if applicable, the period of time in which the savings from such capital expenditure is equal to or greater than the cost of the capital expenditure, as Landlord shall reasonably determine.

4.6 "Pro Rata Share" shall mean the percentage of the square footage of the Premises as compared to the square footage of the Project. Landlord shall have the right from time to time, including when the physical size of the Building, the Premises and/or the Project has changed, to re-determine the rentable square feet of the Premises and/or Building, and Tenant's Pro Rata Share shall be adjusted to reflect any such redetermination, which redetermination shall be in a manner that fairly and equitably allocates Operating Expenses among tenants of the Project.

4.7 Payment of Operating Expenses. All payments of Operating Expenses shall be made within thirty (30) days of request by Landlord. Landlord may, at Landlord's sole discretion, estimate the Operating Expenses, and require that Tenant's Pro Rata Share of the Operating Expenses be paid in advance to Landlord by Tenant, either: (i) quarterly, (ii) monthly in advance along with the payment of the Base Rent, or (iii) in such other manner as the parties shall agree. If Landlord elects to require payment monthly in advance, the monthly payment shall be an amount equal to the estimated amount of Operating Expenses for such calendar year divided by twelve. If the total amount collected by Landlord is less than Tenant's actual Pro Rata Share of Operating Expenses for any calendar year, as reasonably determined by Landlord, Tenant shall pay Landlord within thirty (30) days of request, such additional sums. If the total amount collected by Landlord is more than Tenant's actual Pro Rata Share of Operating Expenses for any calendar

year, as reasonably determined by Landlord (an "Overage"), Tenant shall receive a credit against the Rent next due under this Lease in the amount of such Overage (or, in the event that this Lease shall have terminated, Tenant shall receive a refund from Landlord in the amount of such Overage). The terms of this Section 4.4 shall survive the early termination or expiration of this Lease.

ARTICLE 5
SECURITY DEPOSIT

Tenant shall deposit with Landlord upon execution hereof the Security Deposit as security for Tenant's faithful performance of its obligations under this Lease. If Tenant fails to pay Rent, or otherwise Defaults under this Lease, Landlord may, in addition to all other remedies available to Landlord at law or in equity, use, apply or retain all or any portion of the Security Deposit for the payment of any amount due Landlord, for Rents which will be due in the future and/or to reimburse or compensate Landlord for any liability, cost, expense, loss or damage which Landlord may suffer or incur by reason thereof. If Landlord uses or applies all or any portion of the Security Deposit, Tenant shall within ten (10) days after written request therefor deposit monies with Landlord sufficient to restore the Security Deposit to the full amount required by this Lease. Within ninety (90) days after the expiration or termination of this Lease, Landlord shall return that portion of the Security Deposit not used or applied by Landlord. No part of the Security Deposit shall be considered to be held in trust, to bear interest or to be prepayment for any monies to be paid by Tenant under this Lease.

ARTICLE 6
USE

6.1 Use. Tenant shall use and occupy the Premises only for the Agreed Use, and for no other purpose. Tenant shall not use or permit the Premises to be used for any other purpose without Landlord's prior written consent, which may be granted or withheld in Landlord's sole discretion. Tenant shall not use or permit the use of the Premises, or suffer or permit any person or persons to use the Premises or any part thereof for any purposes or in a manner that is unlawful, creates damage, waste or disturbs owners and/or occupants of, causes damage to, neighboring properties, or in any way that is contrary to any rules and regulations Landlord may require of Tenant, as the same may be amended by Landlord from time to time, or in violation of the laws of the United States of America, the State of California, the ordinances, regulations or requirements of the local municipal or county governing body or other lawful authorities having jurisdiction over the Project, including, without limitation, any such laws, ordinances, regulations or requirements relating to hazardous materials or substances, as those terms are defined by applicable laws now or hereafter in effect (collectively, the "Applicable Requirements"). Tenant shall not do or permit anything to be done in or about the Premises which will in any way damage the reputation of the Project or obstruct or interfere with the rights of other tenants or occupants of the Building, or injure or annoy them or use or allow the Premises to be used for any improper, unlawful or objectionable purpose, nor shall Tenant cause, maintain or permit any nuisance in, on or about the Premises. Tenant shall comply with, and Tenant's rights and obligations under the Lease and Tenant's use of the Premises shall be subject and subordinate to, all recorded easements, covenants, conditions, and restrictions now or hereafter affecting the Project. At its sole cost and expense, Tenant shall promptly comply with all such Applicable Requirements, including, without limitation, Applicable Requirements in effect to limit the spread of Infectious Conditions for itself and its employees, agents, contractors and invitees. Tenant will obtain and pay for all licenses and permits (including any business licenses) required for Tenant's use and occupancy of the Premises.

6.2 Hazardous Substances.

6.3 Reportable Uses Require Consent. The term "Hazardous Substance" as used in this Lease shall mean any product, substance, or waste whose presence, use, manufacture, disposal, transportation, or release, either by itself or in combination with other materials expected to be on the Premises, is either: (i) potentially injurious to the public health, safety or welfare, the environment or the Premises, (ii) regulated or monitored by any governmental authority or (iii) a basis for potential liability of Landlord to any governmental agency or third party under any applicable statute or common law theory. Hazardous Substances shall include, but not be limited to, hydrocarbons, petroleum, gasoline, and/or crude oil or any products, by-products or fractions thereof. Tenant shall not engage in any activity in or on the Premises that constitutes a Reportable Use of Hazardous Substances. "Reportable Use" shall mean (i) the installation or use of any above or below ground storage tank, (ii) the generation, possession, storage, use, transportation, or disposal of a Hazardous Substance that requires a permit from, or with respect to which a report, notice, registration or business plan is required to be filed with, any governmental authority, and/or (iii) the presence at the Premises of a Hazardous Substance with respect to which any Applicable Requirements requires that a notice be given to persons entering or occupying the Premises or neighboring properties. Notwithstanding the foregoing, Tenant may use any ordinary and customary materials reasonably required to be used in the normal course of the Agreed Use, ordinary office supplies (copier, toner, liquid paper, glue, etc.) and common household cleaning materials, so long as such use is in compliance with all Applicable Requirements and does not expose the Premises or neighboring property to any material risk of contamination or damage or expose Landlord to any liability therefor. Landlord may require such additional assurances as Landlord reasonably deems necessary in Landlord's sole and absolute judgment to protect itself, the public, the Premises and/or the environment against damage, contamination, injury and/or liability, including, but not limited to, the installation (and removal on or before Lease expiration or termination) of protective modifications (such as concrete encasements) and/or increasing the Security Deposit.

6.4 Duty to Inform Landlord. If Tenant knows, or has reasonable cause to believe, that a Hazardous Substance has come to be located in, on, under or about the Premises in violation of Applicable Requirements, Tenant shall immediately give written notice of such fact to Landlord, and provide Landlord with a copy of any report, notice, claim or other documentation which it has concerning the presence of such Hazardous Substance.

6.5 Tenant Remediation. Tenant shall not cause or permit any Hazardous Substance to be spilled or released in, on, under, or about the Premises (including through the plumbing or sanitary sewer system) and shall promptly, at Tenant's expense, comply with Applicable Requirements and take all necessary or reasonably recommended investigatory and/or remedial action, whether or not formally ordered or required, for the cleanup of any contamination of, and for the maintenance, security and/or monitoring of the Premises or neighboring properties, that was caused or materially contributed to by Tenant, or pertaining to or involving any Hazardous Substance brought onto the Premises at any time during the term of this Lease, by or for Tenant, or any third party.

6.6 Tenant Indemnification. Tenant shall be solely responsible for and shall indemnify, defend, reimburse and hold Landlord, its agents, lenders and employees, if any, harmless from and against any and all loss of rents and/or damages, losses, liabilities, judgments, claims, costs, expenses, penalties, and attorneys' and consultants' fees arising out of or involving any Hazardous Substance brought, spilled or released in, on, under or about the Premises by or for Tenant, or any third party (provided, that Tenant shall have no liability under this Lease with respect to underground migration of any Hazardous Substance under the Premises from adjacent properties not caused or contributed to by Tenant). Tenant's obligations shall include, but not be limited to, the effects of any contamination or injury to person, property or the environment created or suffered by Tenant, and the cost of investigation, removal, remediation, restoration

and/or abatement, and shall survive the expiration or termination of this Lease. No expiration, termination or cancellation of this Lease and no release agreement entered into by Landlord and Tenant shall release Tenant from its obligations under this Lease with respect to Hazardous Substances, unless specifically so agreed by Landlord in writing at the time of such agreement.

6.7 Compliance with Applicable Requirements. Tenant shall, at Tenant's sole expense, fully, diligently and in a timely manner, comply with all Applicable Requirements, the requirements of any applicable fire insurance underwriter or rating bureau, and the recommendations of Landlord's engineers and/or consultants which relate in any manner to the Premises, without regard to whether said requirements are now in effect or become effective after the Commencement Date. Tenant shall, within ten (10) days after receipt of Landlord's written request, provide Landlord with copies of all permits and other documents, and other information evidencing Tenant's compliance with any Applicable Requirements specified by Landlord, and shall immediately upon receipt, notify Landlord in writing (with copies of any documents involved) of any threatened or actual claim, notice, citation, warning, complaint or report pertaining to or involving the failure of Tenant or the Premises to comply with any Applicable Requirements.

6.8 Inspection; Compliance. Landlord and Landlord's "Lender" (as defined in Section 17.13(a) below), if applicable, and consultants shall have the right to enter into Premises at any time, in the case of an emergency, and otherwise at reasonable times, for the purpose of inspecting the condition of the Premises and for verifying compliance by Tenant with this Lease. The cost of any such inspections shall be paid by Landlord, unless a violation of Applicable Requirements, or a Hazardous Substance condition is found to exist or be imminent, or the inspection is requested or ordered by a governmental authority. In such case, Tenant shall upon request reimburse Landlord for the cost of such inspections, so long as such inspection is reasonably related to the violation or contamination.

ARTICLE 7
MAINTENANCE; REPAIRS; UTILITY INSTALLATIONS; FIXTURES AND ALTERNATIONS

7.1 Tenant's Obligations.

7.2 In General. Except as provided in Section 7.2, it is expressly understood and agreed that Landlord is under no obligation to provide Tenant with any services (including, without limitation, any security services or janitorial services). Tenant shall, at Tenant's sole expense, keep the Premises, Trade Fixtures, Utility Installations and Alterations in good order, condition, appearance and repair (whether or not the portion of the Premises requiring repairs, or the means of repairing the same, are reasonably or readily accessible to Tenant, whether or not the need for such repairs occurs as a result of Tenant's use, any prior use, the elements or the age of such portion of the Premises, and whether such maintenance or repair is foreseen or unforeseen), Tenant, in keeping the Premises in good order, condition and repair, shall exercise and perform good maintenance practices. Tenant's obligations shall include restorations, replacements or renewals when necessary to keep the Premises and all improvements thereon or a part thereof in good order, condition and state of repair.

7.3 Failure to Perform. If Tenant fails to perform Tenant's obligations under this Section 7.1, Landlord may enter upon the Premises after ten (10) days' prior written notice to Tenant (except in the case of an emergency, in which case no notice shall be required), perform such obligations on Tenant's behalf, and put the Premises in good order, condition and repair, and Tenant shall promptly pay to Landlord a sum equal to 110% of the cost thereof.

7.4 Landlord's Obligations. Subject to reimbursement pursuant to Section 4.4, Landlord shall repair and maintain the exterior roof, structural portions of the Building and Premises, base building systems (including HVAC, electrical and plumbing systems) and the Common Areas. Landlord shall not be required

to make any repair, replacement, maintenance or other work whatsoever in the interior of the Premises, and Tenant waives the right to make repairs, replacements or to perform maintenance or other work at the expense of Landlord, which right may be provided for in any Applicable Requirements. It is the intention of the parties that the terms of this Lease govern the respective obligations of the parties as to maintenance and repair of the Premises, and they expressly waive the benefit of any statute now or hereafter in effect to the extent it is inconsistent with the terms of this Lease.

7.5 Utility Installations; Trade Fixtures; Alterations.

7.6 Definitions. The term "Utility Installations" refers to all floor and window coverings, air lines, steam lines, power panels, electrical distribution, security and fire protection systems, communication systems, information technology infrastructure, lighting fixtures, HVAC and other air-handling equipment, plumbing, and fencing in or on the Premises. The term "Trade Fixtures" shall mean Tenant's machinery and equipment that can be removed without doing material damage to the Premises. The term "Alterations" shall mean any modification or improvements, other than Utility Installations or Trade Fixtures, whether by addition or deletion. "Tenant Owned Alterations and/or Utility Installations" are defined as Alterations and/or Utility Installations made by Tenant that are not yet owned by Landlord pursuant to Section 7.4(a).

7.7 Consent. Except for any Improvements to be constructed by Tenant pursuant to the Work Letter, Tenant shall not make any Alterations or Utility Installations to the Premises without Landlord's prior consent. Tenant may, however, make non-structural Utility Installations to the interior of the Premises (excluding the roof) without such consent but upon notice to Landlord, as long as they are not visible from the outside, do not involve puncturing, relocating or removing the roof or any existing walls, will not affect the electrical, plumbing, HVAC, and/or life safety systems, and the cumulative cost thereof during this Lease for each building comprising a portion of the Premises does not exceed $100,000.00 in the aggregate. Notwithstanding the foregoing, Tenant shall not make or permit any roof penetrations and/or install anything on the roof without the prior approval of Landlord. Any Alterations or Utility Installations that Tenant shall desire to make and which require the consent of Landlord shall be made in accordance with the Work Letter. Each of the parties hereto shall perform the obligations imposed upon such party in the Work Letter at the times and in the manner therein provided. Consent shall be deemed conditioned upon Tenant's: (i) acquiring all applicable governmental permits, (ii) furnishing Landlord with copies of both the permits and the plans and specifications prior to commencement of the work, and (iii) compliance with all conditions of said permits and other Applicable Requirements in a prompt and expeditious manner. Any Alterations or Utility Installations shall be performed in a workmanlike manner with good and sufficient materials. Tenant shall, promptly upon completion, furnish Landlord with as-built plans and specifications. For work which costs an amount equal to the greater of one (1) month's Base Rent, Landlord may condition its consent upon Tenant providing a lien and completion bond in an amount equal to one and one-half times the estimated cost of such Alteration or Utility Installation or upon Tenant's posting an additional Security Deposit with Landlord equal to such amount, which additional Security Deposit shall be returned to Tenant upon completion of the work. Tenant must reimburse Landlord within ten (10) days after Tenant's receipt of Landlord's invoice for Landlord's actual and reasonable costs incurred relating to any Utility Installations, Trade Fixtures or Alterations, including but not limited to all management, engineering, consulting, construction and legal fees incurred by Landlord for the review and approval of Tenant's plans and specifications or for monitoring Tenant's construction of any Utility Installations, Trade Fixtures or Alterations. In the event that Tenant makes any Alterations, then prior to the commencement of such Alterations, Tenant shall provide Landlord with evidence that Tenant carries "Builder's All Risk" insurance in an amount approved by Landlord covering the construction of such Alterations, and such other insurance as Landlord may reasonably require, it being understood and agreed that all of such Alterations shall be insured by Tenant pursuant to Article 8 of this Lease immediately upon completion thereof.

7.8 Liens; Bonds. Tenant shall pay, when due, all claims for labor or materials furnished or alleged to have been furnished to or for Tenant at or for use on the Premises, which claims are or may be secured by any mechanic's or materialmen's lien against the Premises or any interest therein. Tenant shall give Landlord not less than ten (10) days' notice prior to the commencement of any work in, on or about the Premises, and Landlord shall have the right to post notices of non-responsibility. If Tenant shall contest the validity of any such lien, claim or demand, then Tenant shall, at its sole expense, defend and protect itself, Landlord and the Premises against the same and shall pay and satisfy any such adverse judgment that may be rendered thereon before the enforcement thereof. If Landlord shall require, Tenant shall furnish a surety bond in an amount equal to one and one-half times the amount of such contested lien, claim or demand, indemnifying Landlord against liability for the same. Landlord shall not be liable for any labor, services or materials furnished to Tenant or to any party holding any portion of the Premises through or under Tenant and no mechanic's liens or other liens for any labor, services or materials shall attaché to the Premises or the leasehold estate created thereby.

7.9 Ownership; Removal; Surrender; and Restoration.

7.10 Ownership. Subject to Landlord's right to require removal or elect ownership as hereinafter provided, all Alterations and Utility Installations made by Tenant shall be the property of Tenant, but considered a part of the Premises. Landlord may, at any time, elect in writing to be the owner of all or any specified part of the Tenant Owned Alterations and Utility Installations. Unless otherwise instructed per Section 7.4(b) hereof, all Tenant Owned Alterations and Utility Installations shall, at the expiration or termination of this Lease, become the property of Landlord and be surrendered by Tenant with the Premises.

7.11 Removal. By delivery to Tenant of written notice from Landlord no later than sixty (60) days prior to the end of the term of this Lease, Landlord may require that any or all Tenant Owned Alterations or Utility Installations installed by or for the benefit of Tenant after the date of this Lease be removed by the expiration or earlier termination of this Lease, or within thirty (30) days following delivery of such written notice, if given after expiration or termination of this Lease. Landlord may require the removal at any time of all or any part of any Tenant Owned Alterations or Utility Installations made without the required consent. Notwithstanding anything to the contrary in this Lease, Tenant shall not be required to remove any of the initial Improvements installed prior to Tenant's initial occupancy of the Premises.

7.12 Surrender; Restoration. Tenant shall surrender the Premises by the Expiration Date or any earlier termination date, with all of the improvements, parts and surfaces thereof broom clean and free of debris, and in good operating order, condition and state of repair, normal wear and tear excepted. Tenant shall perform all restorations, replacements or renewals required to deliver the Premises and all improvements thereon or a part thereof to Landlord in good order, condition and state of repair, normal wear and tear excepted. Tenant shall repair any damage occasioned by the installation, maintenance or removal of Trade Fixtures, Tenant Owned Alterations or Utility Installations, furnishings, and equipment as well as the removal of any storage tank installed by or for Tenant, and the removal, replacement, or remediation of any soil, material or groundwater contaminated by Tenant. Trade Fixtures shall remain the property of Tenant and shall be removed by Tenant. Any personal property of Tenant not removed on or before the Expiration Date or any earlier termination date shall be deemed to have been abandoned by Tenant and may be disposed of or retained by Landlord at Landlord's sole discretion. The failure by Tenant to timely vacate the Premises pursuant to this Section 7.4(c) without the express written consent of Landlord shall constitute a holdover under the provisions of Section 17.9 below.

7.13 Tenant's Default of Maintenance and Repair Obligations. If Tenant shall be in default of any of the provisions of this Section 7, Landlord may, after thirty (30) days' written notice to Tenant and failure of Tenant to cure during said period, but without notice in the case of an emergency, do whatever is

necessary to cure such default as may be appropriate under the circumstances for the account of and at the expense of Tenant. All reasonable sums so paid by Landlord and all reasonable expenses (including without limitation reasonable attorneys' fees and costs) so incurred, together with Interest from the date of payment or the incurring of such expenses, shall constitute Rent payable by Tenant under this Lease and shall be paid by Tenant to Landlord on demand.

ARTICLE 8
INSURANCE; INDEMNITY

8.1 Payment for Insurance. Tenant shall pay for all insurance required under Paragraph 8. Premiums for policy periods commencing prior to or extending beyond the Term shall be prorated to correspond to the Term. Payment for insurance held by Tenant shall be made by Tenant directly to the insurance carrier.

8.2 Liability Insurance. Tenant shall obtain and keep in force during the term of this Lease (i) a Commercial General Liability policy of insurance protecting Tenant and Landlord as an additional insured against claims for bodily injury, property damage and personal injury based upon, relating to, involving, or arising out of the use, occupancy, or maintenance of the Premises and all areas appurtenant thereto with such insurance to be on an occurrence basis providing single limit coverage in an amount not less than $1,000,000 per occurrence with an annual aggregate of not less than $2,000,000, and (ii) excess (or umbrella) liability insurance in an amount not less than$ $1,000,000 per occurrence $3,000,000 aggregate limit, applying in excess over the limits and coverages noted in subsection (i) above. Tenant shall promptly provide Landlord with evidence of such insurance in the form of an endorsement to the policy. The insurance shall include an "Additional Insured – Managers, Landlords, of Premises" endorsement. The policy shall not contain any inter-insured exclusions as between insured persons or organizations, shall contain endorsements for cross-liability to ensure a severability of interests, but shall include coverage for liability assumed under this Lease as an "insured contract" for the performance of Tenant's indemnity obligations under this Lease. The limits of said insurance required by this Lease or as carried by Tenant shall not, however, limit the liability of Tenant, nor relieve Tenant of any obligation hereunder. All insurance to be carried by Tenant shall be primary to and not contributory with any insurance carried by Landlord, whose insurance shall be considered excess insurance only and shall not insure Tenant. Tenant shall comply with and maintain, and shall require all its vendors and contractors who provide services to or upon the Premises to comply and maintain, reasonable insurance requirements as set forth by Landlord.

8.3 Property Insurance – Building and Improvements.

8.4 Building and Improvements. Subject to reimbursement pursuant to Section 4.4, Landlord shall obtain and keep in force, at Tenant's sole cost and expense, a policy or policies in the name of Landlord, with loss payable to Landlord insuring loss or damage to the Premises. The amount of such insurance shall be equal to the Replacement Cost of the Premises, as the same shall exist from time to time, but in no event more than the commercially reasonable and available insurable value thereof. If the coverage is available and commercially appropriate, such policy or policies shall insure against all risks of direct physical loss or damage, including coverage for debris removal and the enforcement of any Applicable Requirements requiring the upgrading, demolition, reconstruction or replacement of any portion of the Premises as the result of a covered loss. Said policy or policies shall not exclude flood coverage if the Premises are located in a flood zone, and may include earthquake coverage in Landlord's discretion. Said policy or policies shall also contain, if available and commercially appropriate, an agreed valuation provision in lieu of any coinsurance clause, waiver of subrogation, and inflation guard protection causing an increase in the annual property insurance coverage amount by a factor of not less than the adjusted U.S. Department of Labor Consumer Price Index for All Urban Consumers for the city nearest to where the Premises is located. Such insurance coverage may have a deductible clause, and such deductible amount

shall be an Operating Expense pursuant to Section 4.4, in the event of an Insured Loss. Tenant, at Tenant's option, by providing written notice to Landlord, shall have the right to obtain the insurance required in this section.

8.5 Tenant's Property; Business Interruption Insurance; Worker's Compensation Insurance.

8.6 Property Damage. Tenant shall obtain and maintain insurance coverage on all of Tenant's personal property, Trade Fixtures, and Tenant Owned Alterations and Utility Installations for the full replacement cost thereof. The proceeds from any such insurance shall be used by Tenant for the replacement of personal property, Trade Fixtures and Tenant Owned Alterations and Utility Installations.

8.7 Business Interruption Insurance. Tenant shall obtain and maintain loss of income and extra expense insurance in amounts as will reimburse Tenant for direct or indirect loss of earnings attributable to all perils commonly insured against by prudent Tenants in the business of Tenant or attributable to prevention of access to the Premises as a result of such perils.

8.8 Worker's Compensation Insurance. Tenant shall obtain and maintain worker's compensation insurance in such amount as may be required by Applicable Requirements. Such policy shall include a "Waiver of Subrogation" endorsement.

8.9 No Representation of Adequate Coverage. Landlord makes no representation that the limits or forms of coverage of insurance specified herein are adequate to cover Tenant's property, business operations or obligations under this Lease.

8.10 Additional Requirement. Landlord may require that Tenant's licensees, vendors, or agents carry reasonable insurance coverage and list Landlord and any management company of the Property as additional insureds.

8.11 Insurance Policies. Insurance required herein shall be by companies duly licensed or admitted to transact business in the state where the Premises are located, and maintaining during the policy term a "General Policyholders Rating" of at least A-, VII, as set forth in the most current issue of "Best's Insurance Guide," or such other rating as may be reasonably required by a Lender. Tenant shall not do or permit to be done anything that invalidates the required insurance policies. Tenant shall, prior to the Commencement Date, deliver to Landlord certified copies of policies of such insurance or endorsements evidencing the existence and amounts of the required insurance. Tenant shall, at least thirty (30) days prior to the expiration of such policies, furnish Landlord with evidence satisfactory to Landlord of renewals or "insurance binders" evidencing renewal thereof, or Landlord may order such insurance and charge the cost thereof to Tenant, which amount shall be payable by Tenant to Landlord upon demand. Such policies shall be for a term of at least one (1) year, or the length of the remaining term of this Lease, whichever is less. If Tenant shall fail to procure and maintain the insurance required to be carried by it, Landlord may, but shall not be required to, procure and maintain the same at Tenant's expense, for which Tenant shall promptly reimburse Landlord together with Interest thereon from the date paid by Landlord. Tenant shall pay all premiums for the insurance required by this Section 8 as they become due.

8.12 Waiver of Subrogation. Without affecting any other rights or remedies, Tenant and Landlord each hereby release and relieve the other, and waive their entire right to recover damages against the other, for loss of or damage to its property arising out of or incident to the perils required to be insured against herein. The effect of such releases and waivers is not limited by the amount of insurance carried or required, or by any deductibles applicable hereto. The parties agree to have their respective property damage insurance carriers waive any right to subrogation that such companies may have against Landlord or Tenant, as the case may be, so long as the insurance is not invalidated thereby.

8.13 Indemnity. Except for Landlord's gross negligence or willful misconduct, Tenant shall indemnify, protect, defend and hold harmless the Premises, Landlord and its agents and Lenders from and against any and all claims, loss of rents and/or damages, liens, judgments, penalties, attorneys' and consultants' fees, expenses and/or liabilities arising out of, involving, or in connection with, the use and/or occupancy of the Premises or the Project by Tenant or Tenant's agents, contractors, employees, licensees or invitees (collectively, "Tenant Parties"), any act, omission or negligence of any Tenant Parties, or any breach of this Lease by Tenant. If any action or proceeding is brought against Landlord by reason of any of the foregoing matters, Tenant shall upon notice defend the same at Tenant's expense by counsel reasonably satisfactory to Landlord and Landlord shall reasonably cooperate with Tenant in such defense. Landlord need not have first paid any such claim in order to be defended or indemnified.

8.14 Exemption of Landlord and its Agents from Liability. Notwithstanding the negligence or breach of this Lease by Landlord or its agents, neither Landlord nor its agents shall be liable under any circumstances for injury or damage to the person or goods, wares, merchandise or other property of any Tenant Parties or any other person in or about the Premises, by reason of the condition of the Premises or the operation thereof or for any other reason, whether such damage or injury is caused by or results from fire, steam, electricity, gas, water or rain, or from the breakage, leakage, obstruction or other defects of pipes, fire sprinklers, wires, appliances, plumbing, HVAC or lighting fixtures, or from any other cause, whether the said injury or damage results from conditions arising upon the Premises or upon other portions of the Building of which the Premises are a part, or from other sources or places. Landlord and its agents shall not be liable for any damages arising from any act or neglect of any other tenant of Landlord. Notwithstanding Landlord's negligence or breach of this Lease, Landlord shall under no circumstances be liable for injury to Tenant's business or for any loss of income or profit therefrom and Tenant waives any claim against Landlord for actual, consequential, incidental, exemplary or punitive damages. Instead, it is intended that Tenant's sole recourse in the event of such damages or injury be to file a claim on the insurance policy(ies) that Tenant is required to maintain pursuant to the provisions of this Section 8.

ARTICLE 9
DAMAGE OR DESTRUCTION

9.1 Definitions.

9.2 "Premises Partial Damage" shall mean damage or destruction to the improvements on the Building or Premises, other than Tenant Owned Alterations and Utility Installations, which can reasonably be repaired in six (6) months or less from the date of the damage or destruction.

9.3 "Premises Total Destruction" shall mean damage or destruction to the Building or Premises, other than Tenant Owned Alterations and Utility Installations and Trade Fixtures, which cannot reasonably be repaired in six (6) months or less from the date of the damage or destruction.

9.4 "Insured Loss" shall mean damage or destruction to improvements on the Premises, other than Tenant Owned Alterations and Utility Installations and Trade Fixtures, which was caused by an event required to be covered by the insurance described in Section 8.3(a), irrespective of any deductible amounts or coverage limits involved.

9.5 "Replacement Cost" shall mean the cost to repair or rebuild the improvements owned by Landlord at the time of the occurrence to their condition existing immediately prior thereto, including demolition, debris removal and upgrading required by the operation of Applicable Requirements, and without deduction for depreciation.

9.6 "Hazardous Substance Condition" shall mean the occurrence or discovery of a condition involving the presence of, or a contamination by, a Hazardous Substance, in, on, or under the Premises which requires remediation.

9.7 Notification. Upon the occurrence of a casualty, damage or destruction to the Building or Premises, Landlord shall notify Tenant within thirty (30) days from the date of such event informing Tenant if such casualty, damage or destruction constitutes Premises Partial Damage or Premises Total Destruction.

9.8 Partial Damage – Insured Loss. If a Premises Partial Damage that is an Insured Loss occurs, then Landlord shall, at Tenant's expense, repair such damage (but not Tenant's Trade Fixtures or Tenant Owned Alterations and Utility Installations) as soon as reasonably possible and this Lease shall continue in full force and effect. Premises Partial Damage due to flood or earthquake shall be subject to Section 9.4, notwithstanding that there may be some insurance coverage, but the net proceeds of any such insurance shall be made available for the repairs.

9.9 Partial Damage – Uninsured Loss. If a Premises Partial Damage that is not an Insured Loss occurs, unless caused by a negligent or willful act of Tenant (in which event Tenant shall reimburse Landlord for the cost of the repairs), Landlord may either: (i) repair such damage as soon as reasonably possible at Landlord's expense, in which event this Lease shall continue in full force and effect, or (ii) terminate this Lease by giving written notice to Tenant within thirty (30) days after receipt by Landlord of knowledge of the occurrence of such damage. Such termination shall be effective sixty (60) days following the date of such notice. In the event Landlord elects to terminate this Lease, Tenant shall have the right within ten (10) days after receipt of the termination notice to give written notice to Landlord of Tenant's commitment to pay for the repair of such damage without reimbursement from Landlord. Tenant shall provide Landlord with said funds or satisfactory assurance thereof within thirty (30) days after making such commitment. In such event this Lease shall continue in full force and effect, and Landlord shall proceed to make such repairs as soon as reasonably possible after the required funds are available. If Tenant does not make the required commitment, this Lease shall terminate as of the date specified in the termination notice.

9.10 Total Destruction. Notwithstanding any other provision hereof, if a Premises Total Destruction occurs, this Lease shall terminate sixty (60) days following such Destruction. If the damage or destruction was caused by the negligence or willful misconduct of Tenant, Landlord shall have the right to recover Landlord's damages from Tenant.

9.11 Damage Near End of Term. If at any time during the last six (6) months of this Lease there is damage for which the cost to repair exceeds one (1) month's Base Rent, whether or not an Insured Loss, Landlord may terminate this Lease effective sixty (60) days following the date of occurrence of such damage by giving a written termination notice to Tenant within thirty (30) days after the date of occurrence of such damage.

9.12 Abatement of Rent; Tenant's Remedies.

9.13 Abatement. In the event of Premises Partial Damage or Premises Total Destruction or a Hazardous Substance Condition for which Tenant is not responsible under this Lease, the Rent payable by Tenant for the period required for the repair, remediation or restoration of such damage shall be abated in proportion to the degree to which Tenant's use of the Premises is impaired. All other obligations of Tenant hereunder shall be performed by Tenant, and Landlord shall have no liability for any such damage, destruction, remediation, repair or restoration except as provided herein.

9.14 Remedies. If Landlord is obligated to repair or restore the Premises and does not commence, in a substantial and meaningful way, such repair or restoration within 120 days after such

obligation shall accrue, Tenant may, at any time prior to the commencement of such repair or restoration, give written notice to Landlord of Tenant's election to terminate this Lease on a date not less than sixty (60) days following the giving of such notice. If Tenant gives such notice and such repair or restoration is not commenced within thirty (30) days thereafter, this Lease shall terminate as of the date specified in said notice. If the repair or restoration is commenced within such thirty (30) days, this Lease shall continue in full force and effect. "Commence" shall mean either the unconditional authorization of the preparation of the required plans, or the beginning of the actual work on the Premises, whichever first occurs.

9.15 Waive Statutes. Landlord and Tenant agree that the terms of this Lease shall govern the effect of any damage to or destruction of the Premises with respect to the termination of this Lease and hereby waive the provisions of any present or future statute to the extent inconsistent herewith.

ARTICLE 10
REAL PROPERTY TAXES

10.1 Definition. As used herein, the term "Real Property Taxes" shall include any form of assessment; real estate, general, special, ordinary, unforeseen or extraordinary, or rental levy or tax (other than inheritance, personal income or estate taxes); improvement bond; and/or license fee imposed upon or levied against any legal or equitable interest of Landlord in the Premises or the Project, Landlord's right to other income therefrom, and/or Landlord's business of leasing, including, without limitation, gross rentals, taxes by any authority having the direct or indirect power to tax and where the funds are generated with reference to the Building address and where the proceeds so generated are to be applied by the city, county, state or other taxing authority of a jurisdiction within which the Premises are located. Real Property Taxes shall also include any tax, fee, levy, assessment or charge, or any increase therein, imposed by reason of events occurring prior to or during the term of this Lease, including but not limited to, renovations of the Premises, construction of the Improvements, escape assessments or a change in the ownership of the Premises or any other tax or assessment imposed in lieu of any other real property.

10.2 Payment.

10.3 Payment of Taxes. In addition to Base Rent, Tenant shall pay Tenant's Pro Rata Share of the Real Property Taxes. Subject to Section 10.2(b), all such payments shall be made at least ten (10) days prior to any delinquency date. Landlord shall receive invoices for taxes due and upon such receipt promptly deliver such invoices or bills directly to Tenant; provided, that Landlord's failure to deliver any such bill or invoice shall not limit Tenant's obligation to pay such tax. Tenant shall promptly furnish Landlord with satisfactory evidence that such taxes have been paid. If any such taxes shall cover any period of time prior to or after the expiration or termination of this Lease, Tenant's share of such taxes shall be prorated to cover only that portion of the tax bill applicable to the period that this Lease is in effect, and Landlord shall reimburse Tenant for any overpayment. If Tenant shall fail to pay any required Real Property Taxes, Landlord shall have the right to pay the same, and Tenant shall reimburse Landlord therefor promptly upon demand.

10.4 Advance Payment. Landlord may, at Landlord's option, estimate the current Real Property Taxes, and require that Tenant's Pro Rata Share of the Real Property Taxes be paid in advance to Landlord by Tenant, either: (i) in a lump sum amount equal to Pro Rata Share of the installment due, at least twenty (20) days prior to the applicable delinquency date, or (ii) monthly in advance with the payment of the Base Rent. If Landlord elects to require payment monthly in advance, the monthly payment shall be an amount equal to the amount of the estimated amount of taxes divided by the number of months remaining before the month in which said installment becomes delinquent. When the actual amount of the applicable tax bill is known, the amount of such equal monthly advance payments shall be adjusted as required to provide the funds needed to pay the applicable taxes. If the amount collected by Landlord is insufficient to pay Tenant's

Pro Rata Share of such Real Property Taxes when due, Tenant shall pay Landlord, upon demand, such additional sums as are necessary to pay such obligations. All moneys paid to Landlord under this Section may be intermingled with other moneys of Landlord and shall not bear interest. In the event of a Breach by Tenant in the performance of its obligations under this Lease, then any balance of funds paid to Landlord under the provisions of this Section may at the option of Landlord, be treated as an additional Security Deposit.

10.5 Joint Assessment. If the Premises are not separately assessed, Tenant's liability shall be calculated in in accordance with Section 4.4 and in such proportion to be reasonably determined by Landlord from the respective valuations assigned in the assessor's work sheets or such other information as may be reasonably available.

10.6 Personal Property Taxes. Tenant shall pay, prior to delinquency, all taxes assessed against and levied upon Tenant Owned Alterations, Utility Installations, Trade Fixtures, furnishings, equipment and all personal property of Tenant. When possible, Tenant shall cause such property to be assessed and billed separately from the real property of Landlord. If any of Tenant's said personal property shall be assessed with Landlord's real property, Tenant shall pay Landlord the taxes attributable to Tenant's property within ten (10) days after receipt of a written statement.

ARTICLE 11
UTILITIES

Tenant shall obtain and timely pay for all water, gas, heat, light, power, electricity, telephone and other information technology infrastructure, trash disposal and other utilities and services supplied to the Premises, together with any taxes thereon. If any such utilities are provided to Tenant in common with Landlord or other tenants of the Building, Tenant shall pay its reasonable share of such utility expenses based upon the percentage of the square footage of the Premises as compared to the square footage of the Building. If Tenant shall use an over standard amount of utilities or consume any such utility in excess of standard office use, Tenant shall pay Landlord for such excess costs, as reasonably determined by Landlord. It is expressly understood and agreed that Landlord shall have no liability for any provision, interruption or termination of utility services to the Premises and Tenant shall have no right to abatement of Rent or other charges hereunder nor any right to terminate this Lease in the event of any such failure to provide, interruption or termination of utility services.

ARTICLE 12
ASSIGNMENT AND SUBLETTING

12.1 Landlord's Consent Required.

12.2 Except as provided in Section 12.4, Tenant shall not voluntarily or by operation of law assign, transfer, mortgage or encumber (collectively, "assign or assignment") or sublet all or any part of Tenant's interest in this Lease or in the Premises without Landlord's prior written consent.

12.3 An assignment or subletting without consent shall, at Landlord's option, be a Default curable after notice per Section 13.1(e), or a noncurable Breach without the necessity of any notice and grace period. If Landlord elects to treat such unapproved assignment or subletting as a noncurable Breach, in addition to all other rights and remedies of Landlord herein, Landlord may either: (i) terminate this Lease, or (ii) upon thirty (30) days written notice, increase the monthly Base Rent to one hundred ten percent (110%) of the Base Rent then in effect. Further, in the event of such Breach and rental adjustment, all fixed rental adjustments scheduled during the remainder of the Term, including, but not limited to the annual

increase in Base Rent pursuant to Section 1.3 herein, shall be increased to One Hundred Ten Percent (110%) of the scheduled adjusted rent.

12.4 Tenant's remedy for any breach of Section 12.1 by Landlord shall be limited to compensatory damages.

12.5 Terms and Conditions Applicable to Assignment and Subletting.

12.6 Regardless of Landlord's consent, any assignment or subletting shall not: (i) be effective without the express written assumption by such assignee or sublessee of the obligations of Tenant under this Lease, (ii) release Tenant of any obligations hereunder, or (iii) alter the primary liability of Tenant for the payment of Rent or for the performance of any other obligations to be performed by Tenant.

12.7 Landlord may accept Rent or performance of Tenant's obligations from any person other than Tenant pending approval or disapproval of an assignment. Neither a delay in the approval or disapproval of such assignment nor the acceptance of Rent or performance shall constitute a waiver or estoppel of Landlord's right to exercise its remedies for Tenant's Default or Breach.

12.8 Landlord's consent to any assignment or subletting shall not constitute a consent to any subsequent assignment or subletting.

12.9 In the event of any Default or Breach by Tenant, Landlord may proceed directly against Tenant or anyone else responsible for the performance of Tenant's obligations under this Lease, including any assignee or sublessee, without first exhausting Landlord's remedies against any other person or entity responsible therefore to Landlord, or any security held by Landlord.

12.10 Each request for consent to an assignment or subletting shall be in writing, accompanied by information relevant to Landlord's determination as to the financial and operational responsibility and appropriateness of the proposed assignee or sublessee, including but not limited to the intended use and/or required modification of the Premises, if any, together with a fee of $1,000 as consideration for Landlord's considering and processing said request. Tenant agrees to provide Landlord with such other or additional information and/or documentation as may be reasonably requested.

12.11 Any assignee of, or sublessee under, this Lease shall, by reason of accepting such assignment, entering into such sublease, or entering into possession of the Premises or any portion thereof, be deemed to have assumed and agreed to conform and comply with each and every term, covenant, condition and obligation herein to be observed or performed by Tenant during the term of said assignment or sublease, other than such obligations as are contrary to or inconsistent with provisions of an assignment or sublease to which Landlord has specifically consented to in writing.

12.12 Additional Terms and Conditions Applicable to Subletting. The following terms and conditions shall apply to any subletting by Tenant of all or any part of the Premises and shall be deemed included in all subleases under this Lease whether or not expressly incorporated therein.

12.13 Tenant hereby assigns and transfers to Landlord all of Tenant's interest in all Rent payable on any sublease, and Landlord may collect such Rent and apply same toward Tenant's obligations under this Lease; provided, that until a Breach shall occur in the performance of Tenant's obligations, Tenant may collect said Rent. Landlord shall not, by reason of the foregoing or any assignment of such sublease, nor by reason of the collection of Rent, be deemed liable to the sublessee for any failure of Tenant to perform and comply with any of Tenant's obligations to such sublessee. Tenant hereby irrevocably authorizes and directs any such sublessee, upon receipt of a written notice from Landlord stating that a Breach exists in

the performance of Tenant's obligations under this Lease, to pay to Landlord all Rent due and to become due under the sublease. Sublessee shall rely upon any such notice from Landlord and shall pay all Rents to Landlord without any obligation or right to inquire as to whether such Breach exists, notwithstanding any claim from Tenant to the contrary.

12.14 In the event of a Breach by Tenant, Landlord may, at its option, require sublessee to attorn to Landlord, in which event Landlord shall undertake the obligations of the sublessor under such sublease from the time of the exercise of said option to the expiration of such sublease; provided, that Landlord shall not be liable for any prepaid rents paid or security deposit paid by such sublessee to such sublessor or for any prior Defaults or Breaches of such sublessor. If Tenant does not require the sublessor to attorn to Landlord, the sublease shall be extinguished upon the termination of this Lease as a result of Tenant's breach hereunder, and the sublessee shall have no further right to occupy the Premises.

12.15 Any matter requiring the consent of the sublessor under a sublease shall also require the consent of Landlord.

12.16 No sublessee shall further assign or sublet all or any part of the Premises without Landlord's prior written consent.

12.17 Affiliated Companies/Restructuring of Business Organization. Neither (A) the assignment or subletting by Tenant of all or any portion of this Lease or the Premises to (i) a parent or subsidiary of Tenant, or (ii) any person or entity which controls, is controlled by or under common control with Tenant, or (iii) any entity which purchases all or substantially all of the assets of Tenant in one or a series of transactions, or (iv) any entity into which Tenant is merged or consolidated (all such persons or entities described in (i), (ii), (iii) and (iv) being sometimes hereinafter referred to as "Affiliates"), nor (B) any transfer of the membership interest, stock or shares of Tenant, shall be deemed a Transfer under this Article 14, provided that

12.18 Any such Affiliate was not formed, nor was such financing intended, as a subterfuge to avoid the obligations of this Article 12;

12.19 Tenant gives Landlord notice of any such assignment, sublease, financing or public offering;

12.20 Any such Affiliate shall assume, upon or prior to the effective date of such assignment or sublease, all the obligations of Tenant under this Lease; and

12.21 Tenant shall remain fully liable for all obligations to be performed by Tenant under this Lease.

12.22 Special Transferees. Tenant shall be permitted, upon prior written notice to Landlord (without otherwise triggering the provisions of this Article 12 to enter into any license/use agreement for Tenant's affiliates, subsidiaries or parents in connection with Tenant's business, and such licensees shall not be deemed a Transfer under this Article 12; provided that (a) Tenant shall, at the request of Landlord, give Landlord any documents or information reasonably requested by Landlord regarding such licensees/users (including, but not limited to, applicable certificates of insurance), and (b) Tenant shall not be permitted to separately demise any such space nor shall such licensees/users be permitted to maintain a separate reception area in the premises.

ARTICLE 13
DEFAULT; BREACH; REMEDIES

13.1 Default; Breach. A "Default" is defined as a failure by Tenant timely to comply with or perform any of the terms, covenants, conditions or rules under this Lease. A "Breach" is defined as the occurrence of one or more of the following Defaults, and the failure of Tenant to cure such Default within any applicable grace period:

13.2 The failure of Tenant to make any payment of Rent or any Security Deposit required to be made by Tenant hereunder, whether to Landlord or to a third party, within three (3) business days after written notice that such payment is overdue. THE ACCEPTANCE BY LANDLORD OF A PARTIAL PAYMENT OF RENT OR SECURITY DEPOSIT SHALL NOT CONSTITUTE A WAIVER OF ANY OF LANDLORD'S RIGHTS, INCLUDING LANDLORD'S RIGHT TO RECOVER POSSESSION OF THE PREMISES.

13.3 The failure of Tenant to allow Landlord and/or its agents access to the Premises or the commission of waste, act or acts constituting public or private nuisance, and/or an illegal activity on the Premises by Tenant, where such actions continue for a period of ten (10) business days following written notice to Tenant. In the event that Tenant commits waste, a nuisance or an illegal activity a second time then, Landlord may elect to treat such conduct as a non-curable Breach rather than a Default.

13.4 The failure by Tenant to provide (i) reasonable written evidence of compliance with Applicable Requirements, (ii) the rescission of an unauthorized assignment or sublease, or (iii) any other documentation or information which Landlord may reasonably require of Tenant under the terms of this Lease, where any such Default continues for a period of ten (10) business days after written notice.

13.5 A Default by Tenant as to the terms, covenants, conditions or provisions of this Lease, other than those described in Section 13.1(a), (b), (c) or (d) above, where such Default continues for a period of thirty (30) days after written notice; provided, that if the nature of Tenant's Default is such that it is reasonably capable of cure but more than thirty (30) days are reasonably required for its cure, then it shall not be deemed to be a Breach if Tenant promptly (but in no event later than 30 days) commences such cure within said thirty (30) day period and thereafter diligently prosecutes such cure to completion.

13.6 The occurrence of any of the following events: (i) the making of any general arrangement or assignment for the benefit of creditors; (ii) becoming a "debtor" as defined in 11 U.S.C. §101 or any successor statute thereto (unless, in the case of a petition filed against Tenant, the same is dismissed within sixty (60) days); (iii) the appointment of a trustee or receiver to take possession of substantially all of Tenant's assets located at the Premises or of Tenant's interest in this Lease, where possession is not restored to Tenant within thirty (30) days; or (iv) the attachment, execution or other judicial seizure of substantially all of Tenant's assets located at the Premises or of Tenant's interest in this Lease, where such seizure is not discharged within thirty (30) days; provided, however, in the event that any provision of this Section 13.1(f) is contrary to any applicable law, such provision shall be of no force or effect, and not affect the validity of the remaining provisions.

13.7 Tenant does or permits anything that creates a lien on the Premises or the Project, and Tenant fails to discharge the lien within thirty days of its filing.

13.8 If a Default occurs more than four times within any period of twelve (12) months, then, notwithstanding that Tenant cured those prior Defaults, any further Default is a Breach of this Lease for which no notice is required or cure available.

13.9 Remedies. If Tenant fails to perform any of its affirmative duties or obligations, within five (5) days after written notice (or in case of an emergency, without notice), Landlord may, at its option, perform such duty or obligation on Tenant's behalf, including but not limited to the obtaining of reasonably required bonds, insurance policies, or governmental licenses, permits or approvals. Tenant shall pay to Landlord an amount equal to 110% of the costs and expenses of any such performance by Landlord promptly upon receipt of invoice therefor. In the event of a Breach, Landlord may, with or without further notice or demand, and without limiting Landlord in the exercise of any other right or remedy which Landlord may have by reason of such Breach:

13.10 Terminate Tenant's right of possession, in which case this Lease shall immediately terminate and Tenant shall immediately surrender possession of the Premises to Landlord. In such event, Landlord shall be entitled to recover from Tenant: (i) the unpaid Rent which has been earned at the time of termination; (ii) the worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; (iii) 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 Tenant proves could be reasonably avoided; and (iv) any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease, including but not limited to the cost of recovering possession of the Premises, expenses of reletting, including necessary renovation and alteration of the Premises, and reasonable attorneys' fees. The worth at the time of award of the amount referred to in provision (iii) of the immediately preceding sentence shall be computed by discounting such amount at the discount rate of the prime rate of interest published in the Wall Street Journal, or a comparable publication if the prime rate is no longer available in the Wall Street Journal plus four percent. Efforts by Landlord to mitigate damages caused by Tenant's Breach of this Lease shall not waive Landlord's right to recover damages under this Article 13 or otherwise. If termination of this Lease is obtained through the provisional remedy of unlawful detainer, Landlord shall have the right to recover in such proceeding any unpaid Rent and damage as are recoverable therein, or Landlord may reserve the right to recover all or any part thereof in a separate suit. If a notice and grace period are required under Section 13.1 was not previously given, a notice to pay rent or quit, or to perform or quit given to Tenant under the unlawful detainer statute shall also constitute the notice required by Section 13.1. In such case, the applicable grace period required by Section 13.1 and the unlawful detainer statute shall run concurrently, and the failure of Tenant to cure the Default within the greater of the two such grace periods shall constitute both an unlawful detainer and a Breach of this Lease entitling Landlord to the remedies provided for in this Lease and/or by said statute.

13.11 Maintain Tenant's right to possession, in which case this Lease shall continue in effect whether or not Tenant has abandoned the Premises. In such event, Landlord shall be entitled to enforce all of Landlord's rights and remedies under this Lease, including the right to recover the rent as it becomes due. Acts of maintenance, efforts to relet, and/or the appointment or a receiver to protect Landlord's interests shall not constitute a termination of Tenant's right to possession.

13.12 Pursue the remedy of specific performance and/or injunctive relief.

13.13 Change or alter the locks at the Premises and otherwise lock Tenant out of the Premises.

13.14 Pursue any other remedy now or hereafter available in equity under the laws or judicial decisions of the state wherein the Premises are located.

13.15 The expiration or termination of this Lease and/or the termination of Tenant's right to possession shall not relieve Tenant from liability under any indemnity provisions of this Lease as to matters occurring or accruing prior to the expiration or earlier termination of this Lease.

13.16 The acceptance by Landlord of any payments from Tenant after the expiration or earlier termination of this Lease shall not preclude Landlord from commencing and prosecuting a holdover or summary eviction.

13.17 If Tenant shall hold over or remain in possession of the Premises or any part thereof beyond the expiration or earlier termination of this Lease, then Tenant shall be subject to summary proceeding for eviction and liable for all damages related thereto. All damages of Landlord by reason of such holding over by Tenant may be the subject of a separate action and need not be asserted by Landlord in any summary proceedings against Tenant.

13.18 Late Charges. Tenant hereby acknowledges that late payment by Tenant of Rent will cause Landlord to incur costs not contemplated by this Lease, the exact amount of which will be extremely difficult to ascertain. Such costs include, but are not limited to, processing and accounting charges, and late charges which may be imposed upon Landlord by any Lender. Accordingly, if any Rent shall not be received by Landlord (or received by any other third party that Tenant is directed to pay, as provide herein), within five (5) days after such amount shall be due, then, without any requirement for notice to Tenant, Tenant shall pay to Landlord a one-time late charge equal to the greater of $250 or five percent (5%) of each such overdue amount. The parties hereby agree that such late charge represents a fair and reasonable estimate of the costs Landlord will incur by reason of such late payment. Acceptance of such late charge by Landlord shall in no event constitute a waiver of Tenant's Default or Breach with respect to such overdue amount, nor prevent the exercise of any of the other rights and remedies granted hereunder. In the event that a late charge is payable hereunder, whether or not collected, for three (3) installments of Base Rent in any twelve (12) month period, then notwithstanding any provision of this Lease to the contrary, Base Rent shall, at Landlord's option, become due and payable quarterly in advance.

13.19 Interest. Any monetary payment due Landlord hereunder, other than late charges, not received by Landlord, when due as to scheduled payments (such as Base Rent) or within thirty (30) days following the date on which it was due for non-scheduled payment, shall bear interest from the date when due, as to scheduled payments, or the thirty-first (31st) day after it was due as to non-scheduled payments. The interest ("Interest") charged shall be equal to ten percent (10%) per annum, but shall not exceed the maximum rate allowed by law. Interest is payable in addition to the potential late charge provided for in Section 13.3.

ARTICLE 14
CONDEMNATION

If the Premises or any portion thereof are taken under the power of eminent domain or sold under the threat of the exercise of said power (collectively "Condemnation"), this Lease shall terminate as to the part taken as of the date the condemning authority takes title or possession, whichever first occurs. If more than 25% of the Premises, is taken by Condemnation, Tenant may, at Tenant's option, to be exercised in writing within ten (10) days after Landlord shall have given Tenant written notice of such taking (or in the absence of such notice, within ten (10) days after the condemning authority shall have taken possession) terminate this Lease as of the date the condemning authority takes such possession. If Tenant does not terminate this Lease in accordance with the foregoing, this Lease shall remain in full force and effect as to the portion of the Premises remaining, except that the Base Rent shall be reduced in proportion to the reduction in utility of the Premises caused by such Condemnation. Condemnation awards and/or payments shall be the property of Landlord, whether such award shall be made as compensation for diminution in value of the leasehold, the value of the part taken, or for severance damages; provided, that Tenant shall be entitled to any compensation paid by the condemnor for Tenant's relocation expenses, loss of business goodwill and/or Trade Fixtures, without regard to whether or not this Lease is terminated pursuant to the provisions of this Article 14. All Alterations and Utility Installations made to the Premises by Tenant, for purposes of

Condemnation only, shall be considered the property of Tenant and Tenant shall be entitled to any and all compensation which is payable therefor. In the event that this Lease is not terminated by reason of the Condemnation, Landlord shall repair any damage to the Premises caused by such Condemnation.

ARTICLE 15
BROKERS

Tenant and Landlord each represent and warrant to the other that it has had no dealings with any person, firm, broker or finder in connection with this Lease, and that no person is entitled to any commission or finder's fee in connection herewith. Tenant and Landlord do each hereby agree to indemnify, protect, defend and hold the other harmless from and against liability for compensation or charges which may be claimed by any such unnamed broker, finder or other similar party by reason of any dealings or actions of the indemnifying Party, including any costs, expenses, attorneys' fees reasonably incurred with respect thereto.

ARTICLE 16
ESTOPPEL CERTIFICATES

16.1 Each party (as "Responding Party") shall within ten (10) business days after written notice from the other party (the "Requesting Party") execute, acknowledge and deliver to the Requesting Party a statement in writing in form similar to the then most current "Estoppel Certificate" form published by the American Industrial Real Estate Association, plus such additional information, confirmation and/or statements as may be reasonably requested by the Requesting Party.

16.2 If the Responding Party shall fail to execute or deliver the Estoppel Certificate within such ten (10) day period, the Requesting Party may execute an Estoppel Certificate stating that: (i) this Lease is in full force and effect without modification except as may be represented by the Requesting Party, (ii) there are no uncured defaults in the Requesting Party's performance, and (iii) if Landlord is the Requesting Party, not more than one (1) month's rent has been paid in advance. Prospective purchasers and encumbrancers may rely upon the Requesting Party's Estoppel Certificate, and the Responding Party shall be estopped from denying the truth of the facts contained in said Certificate.

16.3 If Landlord desires to finance, refinance, or sell the Premises, or any part thereof, Tenant shall deliver to any potential lender or purchaser designated by Landlord such financial statements as may be reasonably required by such lender or purchaser. All such financial statements shall be received by Landlord and such lender or purchaser in confidence and shall be used only for the purposes herein set forth.

ARTICLE 17
MISCELLANEOUS

17.1 Definition of Landlord. The term "Landlord" as used herein shall mean the owner or owners at the time in question of the fee title to the Premises. In the event of a transfer of Landlord's title or interest in the Premises or this Lease, the prior Landlord shall fully be released from and relieved of all liability with respect to the obligations and/or covenants under this Lease thereafter to be performed by Landlord. Subject to the foregoing, the obligations and/or covenants in this Lease to be performed by Landlord shall be binding only upon Landlord as hereinabove defined.

17.2 Severability. The invalidity of any provision of this Lease, as determined by a court of competent jurisdiction, shall in no way affect the validity of any other provision hereof.

17.3 Day. Unless otherwise specifically indicated to the contrary, the word “days” as used in this Lease shall mean and refer to calendar days.

17.4 Limitation on Liability. The obligations of Landlord under this Lease shall not constitute personal obligations of Landlord or its affiliates, individual partners, directors, officers or shareholders. Tenant shall look to the Premises, and to no other assets of Landlord, for the satisfaction of any liability of Landlord with respect to this Lease, and shall not seek recourse against the individual partners of Landlord or its individual partners, directors, officers or shareholders, or any of their personal assets for such satisfaction.

17.5 Time of Essence. Time is of the essence with respect to the performance of all obligations to be performed or observed by the parties under this Lease.

17.6 No Prior or Other Agreements. This Lease constitutes the entire agreement between Landlord and Tenant with respect to the lease of the Premises and supersedes any and all other prior written or oral agreements or understandings with respect to this transaction. Except as expressly set forth in this Lease, no representations, inducements, understanding or anything of any nature whatsoever, made, stated or represented by Landlord or anyone acting on Landlord’s behalf, either orally or in writing have induced Tenant to enter into this Lease, and Tenant acknowledges, represents and warrants that Tenant has entered into this Lease under and by virtue of Tenant’s own independent investigation.

17.7 Notices.

17.8 Notice Requirements. All notices required or permitted by this Lease shall be in writing and may be delivered in person (by hand or by courier) or may be sent by regular, certified or registered mail or U.S. Postal Service Express Mail, with postage prepaid, or by facsimile transmission, and shall be deemed sufficiently given if served in a manner specified in this Section 17.7. The addresses noted adjacent to a party’s signature on this Lease shall be that party’s address for delivery or mailing of notices. Either party may by written notice to the other specify a different address for notice. A copy of all notices to Landlord shall be concurrently transmitted to such party or parties at such addresses as Landlord may from time to time hereafter designate in writing.

17.9 Date of Notice. Any notice sent by registered or certified mail, return receipt requested, shall be deemed given on the date of delivery shown on the receipt card, or if no delivery date is shown, the postmark thereon. If sent by regular mail the notice shall be deemed given forty-eight (48) hours after the same is addressed as required herein and mailed with postage prepaid. Notices delivered by United States Express Mail or overnight courier that guarantee next day delivery shall be deemed given twenty-four (24) hours after delivery of the same to the Postal Service or courier. Notices transmitted by facsimile transmission or similar means shall be deemed delivered upon telephone confirmation of receipt, provided a copy is also delivered via delivery or mail. If notice is received on a Saturday, Sunday or legal holiday, it shall be deemed received on the next business day.

17.10 Waivers. No waiver by Landlord of the Default or Breach of any term, covenant or condition hereof by Tenant, shall be deemed a waiver of any other term, covenant or condition hereof, or of any subsequent Default or Breach by Tenant of the same or of any other term, covenant or condition hereof. Landlord’s consent to, or approval of, any act shall not be deemed to render unnecessary the obtaining of Landlord’s consent to, or approval of, any subsequent or similar act by Tenant, or be construed as the basis of an estoppel to enforce the provision or provisions of this Lease requiring such consent. The acceptance of Rent by Landlord shall not be a waiver of any Default or Breach by Tenant. Any payment by Tenant may be accepted by Landlord on account of moneys or damages due Landlord, notwithstanding any qualifying statements or conditions made by Tenant in connection therewith, which such statements

and/or conditions shall be of no force or effect whatsoever unless specifically agreed to in writing by Landlord at or before the time of deposit of such payment. THE PARTIES AGREE THAT THE TERMS OF THIS LEASE SHALL GOVERN WITH REGARD TO ALL MATTERS RELATED THERETO AND HEREBY WAIVE THE PROVISIONS OF ANY PRESENT OR FUTURE STATUTE TO THE EXTENT THAT SUCH STATUTE IS INCONSISTENT WITH THIS LEASE.

17.11 No Right to Holdover. Tenant has no right to retain possession of the Premises or any part thereof beyond the expiration or termination of this Lease. In the event that Tenant holds over, then such holdover shall be deemed a "Tenancy at Sufferance" (with Tenant waiving, to the fullest extent permitted by applicable law, any required statutory notices to vacate the Premises) and the Base Rent shall be increased to one hundred fifty percent (150%) of the Base Rent applicable during the month immediately preceding the expiration or termination. Nothing contained herein shall be construed as consent by Landlord to any holding over by Tenant.

17.12 Cumulative Remedies. No remedy or election hereunder shall be deemed exclusive but shall, wherever possible, be cumulative with all other remedies at law or in equity.

17.13 Covenants and Conditions; Construction of Agreement. All provisions of this Lease to be observed or performed by Tenant are both covenants and conditions. It is expressly understood and agreed that Tenant's obligation to pay Rent and other charges due hereunder is an independent covenant. In construing this Lease, all headings and titles are for the convenience of the parties only and shall not be considered a part of this Lease. Whenever required by the context, the singular shall include the plural and vice versa. This Lease shall not be construed as if prepared by one of the parties, but rather according to its fair meaning as a whole, as if both parties had prepared it.

17.14 Binding Effect; Choice of Law. This Lease shall be binding upon the parties, their personal representatives, successors and assigns and be governed by the laws of the State of California. Any litigation between the parties hereto concerning this Lease shall be initiated only in the county of Los Angeles, California.

17.15 Subordination; Attornment; Non-Disturbance.

17.16 Subordination. This Lease shall be subject and subordinate to any ground lease, mortgage, deed of trust, or other hypothecation or security device (collectively, "Security Device"), now or hereafter placed upon the Premises, to any and all advances made on the security thereof, and to all renewals, modifications, and extensions thereof, subject to Tenant's receipt of a non-disturbance agreement in Lender's standard form. Tenant agrees that the holders of any such Security Devices (in this Lease together referred to as "Lender") shall have no liability or obligation to perform any of the obligations of Landlord under this Lease. Any Lender may elect to have this Lease superior to the lien of its Security Device by giving written notice thereof to Tenant, whereupon this Lease shall be deemed prior to such Security Device, notwithstanding the relative dates of the documentation or recordation thereof.

17.17 Attornment. In the event that Landlord transfers title to the Premises, or the Premises are acquired by another upon the foreclosure or termination of a Security Device to which this Lease is subordinated (i) Tenant shall attorn to such new owner, and upon request, enter into a new lease, containing all of the terms and provisions of this Lease, with such new owner for the remainder of the term hereof, or, at the election of the new owner, this Lease will automatically become a new lease between Tenant and such new owner, and (ii) Landlord shall thereafter be relieved of any further obligations hereunder and such new owner shall assume all of Landlord's obligations, except that such new owner shall not: (a) be liable for any act or omission of any prior lessor or with respect to events occurring prior to acquisition of ownership; (b) be subject to any offsets or defenses which Tenant might have against any prior lessor, (c)

be bound by prepayment of more than one (1) month's rent, or (d) be liable for the return of any security deposit paid to any prior lessor which was not paid or credited to such new owner.

17.18 Self-Executing. The agreements contained in this Section 17.13 shall be effective without the execution of any further documents; provided, however, that, upon written request from Landlord or a Lender in connection with a sale, financing or refinancing of the Premises, Tenant and Landlord shall execute such further writings as may be reasonably required to separately document any subordination or attornment agreement provided for herein.

17.19 Modifications Required by Lender. If any Lender requires a modification of this Lease that will not increase Tenant's cost or expense or materially or adversely change Tenant's rights and obligations, this Lease shall be so modified and Tenant shall execute whatever documents are required and deliver them to Landlord within ten (10) business days after the request.

17.20 Infectious Disease Liability Waiver. Tenant acknowledges and agrees that measures and/or services implemented at the Project, if any, intended to encourage social distancing, promote and protect health and physical well-being and/or intended to limit the spread of communicable diseases and/or viruses of any kind or nature ("Infectious Conditions"), may not prevent the spread of such Infectious Conditions. Neither Landlord nor any Landlord Parties shall have any liability and Tenant waives any claims against Landlord and the Landlord Parties with respect to any loss, damage or injury in connection with (x) the implementation, or failure of Landlord or any Landlord Parties to implement, any measures and/or services at the Project intended to encourage social distancing, promote and protect health and physical well-being and/or intended to limit the spread of Infectious Conditions, or (y) the failure of any measures and/or services implemented at the Project, if any, to limit the spread of any Infections Conditions.

17.21 Attorneys' Fees. If any party brings an action or proceeding involving the Premises to enforce the terms hereof or to declare rights hereunder, the Prevailing Party (as hereafter defined) in any such proceeding, action, or appeal thereon, shall be entitled to recover its reasonable attorneys' fees. Such fees may be awarded in the same suit or recovered in a separate suit, whether or not such action or proceeding is pursued to decision or judgment. The term "Prevailing Party" shall include, without limitation, a party who substantially obtains or defeats the relief sought, as the case may be, whether by compromise, settlement, judgment, or the abandonment by the other party of its claim or defense. The attorneys' fees award shall not be computed in accordance with any court fee schedule, but shall be such as to fully reimburse all attorneys' fees reasonably incurred. In addition, Landlord shall be entitled to attorneys' fees, costs and expenses incurred in the preparation and service of notices of Default and consultations in connection therewith, whether or not a legal action is subsequently commenced in connection with such Default or resulting Breach. In addition, if, as a result of any action or request of Tenant, Landlord consults or retains attorneys, Tenant must reimburse Landlord for its attorneys' fee within ten (10) days following Tenant's receipt of Landlord's invoice for those attorneys' fees.

17.22 Landlord's Access; Showing Premises; Repairs. Landlord and Landlord's agents shall have the right to enter the Premises at any time, in the case of an emergency, and otherwise at reasonable times for the purpose of: (i) showing the same to prospective purchasers, lenders, or lessees; (ii) making such alterations, repairs, improvements or additions to the Premises as Landlord may deem necessary, so long as they do not interfere with Tenant's business or use of the Premises; or, (iii) any other reason as Landlord shall deem necessary. All such activities shall be without abatement of rent or liability to Tenant. Landlord may at any time place on the Premises any ordinary "For Sale" signs and Landlord may during the last nine (9) months of the term hereof place on the Premises any ordinary "For Lease" signs.

17.23 Termination; Merger. Unless specifically stated otherwise in writing by Landlord, the voluntary or other surrender of this Lease by Tenant, the mutual termination or cancellation hereof, or a

termination hereof by Landlord for Breach by Tenant, shall automatically terminate any sublease or lesser estate in the Premises; provided, that Landlord may elect to continue any one or all existing subtenancies. Landlord's failure within ten (10) days following any such event to elect to the contrary by written notice to the holder of any such lesser interest shall constitute Landlord's election to have such event constitute the termination of such interest. No payment of money by Tenant to Landlord after this Lease has expired or terminated will reinstate or extend the Term or make ineffective any notice given to Tenant prior to Tenant's payment. If after Landlord has filed and served a lawsuit against Tenant or after a final judgment granting Landlord possession of the Premises, Landlord may receive any sums due under this Lease and the payment will not make ineffective any notice, or in any manner affect any pending lawsuit or previously obtained judgment.

17.24 Consents. Except as otherwise provided herein, wherever in this Lease the consent of a party is required to an act by or for the other Party, such consent shall not be unreasonably withheld or delayed. Landlord's actual reasonable costs and expenses (including but not limited to architects', attorneys', engineers', attorneys and other consultants' fees) incurred in the consideration of, or response to, a request by Tenant for any Landlord consent, including but not limited to consents to an assignment, a subletting or the presence or use of a Hazardous Substance, shall be paid by Tenant upon receipt of an invoice and supporting documentation therefor. Landlord's consent to any act, assignment or subletting shall not constitute an acknowledgment that no Default or Breach by Tenant of this Lease exists, nor shall such consent be deemed a waiver of any then existing Default or Breach, except as may be otherwise specifically stated in writing by Landlord at the time of such consent. In the event that either party disagrees with any determination made by the other hereunder and reasonably requests the reasons for such determination, the determining party shall furnish its reasons in writing and in reasonable detail within ten (10) business days following such request.

17.25 Quiet Possession. Subject to payment by Tenant of the Rent and performance of all of the covenants, conditions and provisions on Tenant's part to be observed and performed under this Lease, Tenant shall have quiet possession and quiet enjoyment of the Premises during the term hereof.

17.26 Security Measures. Tenant hereby acknowledges that the Rent payable to Landlord hereunder does not include the cost of guard service or other security measures, and that Landlord shall have no obligation whatsoever to provide same. Tenant assumes all responsibility for the protection of the Premises, Tenant, its agents and invitees and their property from the acts of third parties.

17.27 Reservations. Landlord reserves to itself the right, from time to time, to grant, without the consent or joinder of Tenant, such easements, rights and dedications that Landlord deems necessary, and to cause the recordation of parcel maps and restrictions, so long as such easements, rights, dedications, maps and restrictions do not unreasonably interfere with the use of the Premises by Tenant. Tenant agrees to sign any documents reasonably requested by Landlord to effectuate any such easement rights, dedication, map or restrictions.

17.28 Relationship of Parties. Nothing contained in this Lease shall be deemed or construed by the parties hereto or by any third party to create the relationship of principal and agent, partnership, joint venturer or any association between Landlord and Tenant, it being expressly understood and agreed that neither the method of computation of Rent nor any act of the parties hereto shall be deemed to create any relationship between Landlord and Tenant other than the relationship of landlord and tenant.

17.29 Offer. Preparation of this Lease by either party or its agent and submission of same to the other party shall not be deemed an offer to lease to the other party. This Lease is not intended to be binding until executed and delivered by all parties hereto.

17.30 Amendments. This Lease may be modified only in writing, signed by the parties in interest at the time of the modification. As long as they do not materially change Tenant's obligations hereunder, Tenant agrees to make such reasonable non-monetary modifications to this Lease as may be reasonably required by a Lender in connection with the obtaining of normal financing or refinancing of the Premises.

17.31 Waiver of Trial By Jury. Tenant hereby waives, to the fullest extent permitted by applicable law, the right to a trial by jury in any action brought by Landlord against Tenant in connection with this Lease.

17.32 Counterparts. This Lease may be executed in counterparts with the same effect as if both parties hereto had executed the same document. Both counterparts shall be construed together and shall constitute a single lease.

17.33 Governing Law. This Lease shall be construed and enforced in accordance with the laws of the State of California.

17.34 Civil Code Section 1938 Advisory. Landlord and Tenant acknowledge and agree that the Premises have not been inspected by a Certified Access Specialist ("CASp") pursuant to Section 1938 of the Civil Code ("CASp Code"). The parties further agree, that a CASp can inspect the Premises and determine whether the Premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the Premises, Landlord may not prohibit Tenant from obtaining a CASp inspection of the Premises for the occupancy or potential occupancy of Tenant, if requested by the 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 the construction-related accessibility standards within the Premises.

[Signature Page Follows]

LANDLORD AND TENANT HAVE CAREFULLY READ AND REVIEWED THIS LEASE AND EACH TERM AND PROVISION CONTAINED HEREIN, AND BY THE EXECUTION OF THIS LEASE SHOW THEIR INFORMED AND VOLUNTARY CONSENT THERETO. THE PARTIES HEREBY AGREE THAT ON THE EFFECTIVE DATE, THE TERMS OF THIS LEASE ARE COMMERCIALLY REASONABLE AND EFFECTUATE THE INTENT AND PURPOSE OF LANDLORD AND TENANT WITH RESPECT TO THE PREMISES.

IN WITNESS WHEREOF, the parties have executed this Lease as of the date first written above.

LANDLORD:

605 NASH, LLC,
a California limited liability company

By: */s/ Charles Kenworthy*
Name: Charles N. Kenworthy
Title: Manager

Address:
9922 Jefferson Blvd.
Culver City, CA 90232
Attention: Chuck Kenworthy

TENANT:

NANTKWEST, INC.,
a Delaware corporation

By: */s/ Richard Adcock*
Name: Richard Adcock
Title: CEO

Address:
3530 Johns Hopkins Court
San Diego, CA 92121
Attention: Chief Financial Officer

EXHIBIT A

PREMISES

[OMITTTED]

EXHIBIT B

WORK LETTER
(Tenant Build)

[OMITTED]

EXHIBIT C
NOTICE OF LEASE TERM DATES

[OMITTED]

Exhibit 21.1

SUBSIDIARIES OF NANTKWEST, INC.

Name of Subsidiary	Jurisdiction of Organization
Inex Bio, Inc.	Republic of Korea
Infacell Therapeutics, Inc.	Delaware
Nectarine Merger Sub, Inc.	Delaware
557 Doug St, LLC	California

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-3 No. 333-233434) of NantKwest, Inc. for the registration of common stock, preferred stock, warrants, debt securities and units,

(2) Registration Statement (Form S-4 No. 333-252232) of NantKwest, Inc. for the registration of common stock to be issued in connection with the merger with ImmunityBio, Inc.,

(3) Registration Statement (Form S-8 No. 333-205942) pertaining to the 2014 Equity Incentive Plan and 2015 Equity Incentive Plan,

(4) Registration Statement (Form S-8 No.333-233082) pertaining to the 2015 Equity Incentive Plan as Amended and Restated, and

(5) Registration Statement (Form S-8 No. 333-243725) pertaining to the 2015 Equity Incentive Plan as Amended and Restated;

of our report dated March 4, 2021, with respect to the consolidated financial statements of NantKwest, Inc. included in this Annual Report (Form 10-K) of NantKwest, Inc. for the year ended December 31, 2020.

/s/ Ernst & Young LLP

Los Angeles, California
March 4, 2021

Exhibit 31.1

Certification of Principal Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Richard Adcock, certify that:

1. I have reviewed this Annual Report on Form 10-K of NantKwest, 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; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent 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: March 4, 2021

/s/ Richard Adcock
Richard Adcock
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

Certification of Principal Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Sonja Nelson, certify that:

1. I have reviewed this Annual Report on Form 10-K NantKwest, 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; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent 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: March 4, 2021

/s/ Sonja Nelson
Sonja Nelson
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
ASADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Richard Adcock, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report on Form 10-K of NantKwest, Inc. for the fiscal year ended December 31, 2020 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Annual Report on Form 10-K fairly presents, in all material respects, the financial condition and results of operations of NantKwest, Inc.

Date: March 4, 2021

By: /s/ Richard Adcock
Name: Richard Adcock
Title: Chief Executive Officer

Exhibit 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
ASADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Sonja Nelson, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report on Form 10-K of NantKwest, Inc. for the fiscal year ended December 31, 2020 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Annual Report on Form 10-K fairly presents, in all material respects, the financial condition and results of operations of NantKwest, Inc.

Date: March 4, 2021

By: /s/ Sonja Nelson
Name: Sonja Nelson
Title: Chief Financial Officer