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

FORM 10-K

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

For the fiscal year ended December 31, 2018

OR

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

For the transition period from_____ to _____

Commission file number 1-38519

AgeX Therapeutics, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**82-1436829**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1010 Atlantic Avenue, Suite 102
Alameda, California 94501
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code **(510) 871-4190**

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

Title of each class	**Name of exchange on which registered**
Common Stock, par value $0.0001 per share	NYSE American

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

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

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

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K ☐

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

Large accelerated filer ☐
Non-accelerated filer ☒

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 to Section 13(a) of the Exchange Act. ☒

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

The Registrant's common stock did not have a market price as of the last day of the Registrant's second fiscal quarter, therefore the aggregate market value of the outstanding shares of common stock as of such date cannot be calculated.

As of March 19, 2019, there were outstanding 37,630,000 shares of common stock, par value $0.0001 per share.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement for its 2019 Annual Meeting of Stockholders are incorporated by reference in Part III

AgeX Therapeutics, Inc.
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PART I

Certain statements contained herein are forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, including, but not limited to, statements pertaining to future financial and/or operating results, future growth in research, technology, clinical development, and potential opportunities for AgeX, along with other statements about the future expectations, beliefs, goals, plans, or prospects expressed by management constitute forward-looking statements. Any statements that are not historical fact (including, but not limited to statements that contain words such as "will," "believes," "plans," "anticipates," "expects," "estimates") should also be considered to be forward-looking statements. Forward-looking statements involve risks and uncertainties, including, without limitation, risks inherent in the development and/or commercialization of potential products, uncertainty in the results of clinical trials or regulatory approvals, need and ability to obtain future capital, and maintenance of intellectual property rights. Actual results may differ materially from the results anticipated in these forward-looking statements and as such should be evaluated together with the many uncertainties that affect the businesses of AgeX, particularly those mentioned in the cautionary statements found in AgeX's filings with the Securities and Exchange Commission. AgeX disclaims any intent or obligation to update these forward-looking statements.

References to " AgeX," "our" or "us" mean AgeX Therapeutics, Inc.

The description or discussion, in this Form 10-K, of any contract or agreement is a summary only and is qualified in all respects by reference to the full text of the applicable contract or agreement.

PRELIMINARY NOTE ABOUT OWNERSHIP OF OUR COMMON STOCK

On November 28, 2018 (the "Distribution Date") BioTime, Inc. ("BioTime") owned 14,416,000 shares of our common stock, par value $0.0001 per share, representing approximately 40.2% of the shares of the common stock issued and outstanding on the Distribution Date. On the Distribution Date, BioTime distributed to its shareholders, on a pro rata basis, 12,697,028 shares of the AgeX common stock it then held (the "Distribution"). Immediately after the Distribution, BioTime retained 1,718,972 shares of AgeX common stock, representing approximately 4.8% of the common stock then issued and outstanding. Following the Distribution, our common stock began publicly trading on the NYSE American under the symbol "AGE".

INDUSTRY AND MARKET DATA

This Annual Report ("Report") on Form 10-K contains market data and industry forecasts that were obtained from industry publications, third party market research and publicly available information. These publications generally state that the information contained therein has been obtained from sources believed to be reliable. While we believe that the information from these publications is reliable, we have not independently verified such information.

This Report also contains estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. We obtained the industry and market data in this Report from our own research as well as from industry and general publications, surveys and studies conducted by third parties, some of which may not be publicly available. Such data involves a number of assumptions and limitations and contains projections and estimates of the future performance of the industries in which we operate that are subject to a high degree of uncertainty. We caution you not to give undue weight to such projections, assumptions and estimates.

Item 1. Business

Overview of Business

We are a biotechnology company focused on the development and commercialization of novel therapeutics targeting human aging. Our mission is to apply our comprehensive experience in fundamental biological processes of human aging to a broad range of age-associated medical conditions. We believe that demand for therapeutics addressing such conditions is on the rise, commensurate with the demographic shift of aging in the United States and many other industrialized countries.

Our proprietary technology, based on telomerase-mediated cellular immortality and regenerative biology, allows us to utilize telomerase-expressing regenerative pluripotent stem cell ("PSCs") for the manufacture of cell-based therapies to regenerate tissues afflicted with age-related chronic degenerative disease. We own or have licenses to a number of patents and patent applications used in the generation of these product candidates including intellectual property related to PSC-derived clonal embryonic progenitor cell lines (*PureStem* ® technology) and *HyStem* ® delivery matrices.

Our product candidates are in discovery stage: They include two cell-based therapies derived from telomerase-positive PSCs and one product candidate derived from our proprietary induced Tissue Regeneration (iTR ™) technology. We will need to conduct research and development work as part of our plan to develop these cell- and drug-based therapies, each targeting large unmet needs in age-related medicine.

Additional Information

AgeX is incorporated in the State of Delaware. Our common shares trade on the NYSE American Stock Exchange under the symbol "AGE." Our principal executive offices are located at 1010 Atlantic Avenue, Suite 102, Alameda, CA 94501, and our phone number at that address is (510) 871-4190. Our website address is www.AgeXinc.com. The information on, or that can be accessed through our website is not part of this Report. We also make available, free of charge through our website, our most recent annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports, as soon as reasonably practicable after the reports are electronically filed with or furnished to the Securities and Exchange Commission (the "SEC").

Renelon ™ , iTR ™ , and UniverCyte ™ , are trademarks of AgeX Therapeutics, Inc. *HyStem* ® and *PureStem* ® are registered trademarks of BioTime, Inc. *GeneCards* ® is a registered trademark of Yeda Research and Development Co. Ltd.

Emerging Growth Company

We are an "emerging growth company" under the Jumpstart our Business Startups Act of 2012 or the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable, in general, to public companies that are not emerging growth companies. These provisions include:

- reduced disclosure about our executive compensation arrangements;
- no non-binding stockholder advisory votes on executive compensation or golden parachute arrangements; and
- exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

We will remain an "emerging growth company" until the earliest of: (i) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the first sale of our common equity securities pursuant to an effective registration statement under the Securities Act of 1933, as amended; (iii) the date on which we have issued more than $1.0 billion in nonconvertible debt securities during the previous three years; or (iv) the date on which we are deemed to be a "large accelerated filer" under the Securities Exchange Act of 1934, as amended.

The JOBS Act permits an emerging growth company to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. However, we have elected to comply with newly adopted or revised accounting standards when they become applicable to public companies because our financial statements were previously consolidated with those of our former parent company BioTime, Inc. which is not an emerging growth company under the JOBS Act and is therefore not permitted to delay the adoption of new or revised accounting standards that become applicable to public companies. This election under the JOBS Act to not delay the adoption of new or revised accounting standards is irrevocable.

Overview of Our Opportunity in Age-Related Diseases

Aging is one of the most significant demographic trends of our time. As shown in Figure 1, the U.S. Census Bureau projects a sharp rise in the number of Americans over 80 years of age, with a marked inflection point occurring between the years 2020 and 2030.

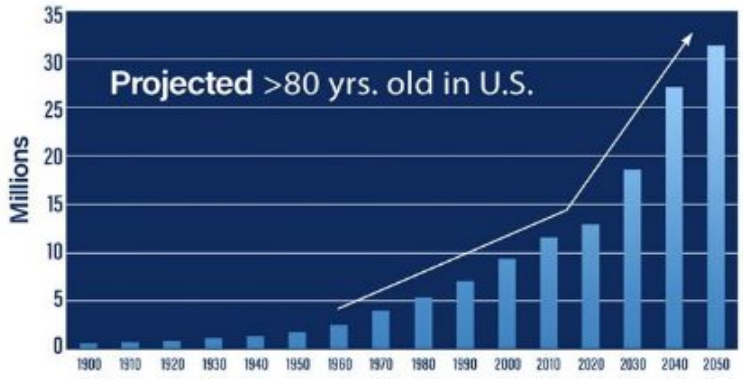

Figure 1. Projected increase in the numbers of the U.S. population over 80 years of age (U.S. Census Bureau)

This demographic shift associated with 76 million aging baby boomers poses a significant challenge to our healthcare system and our economy as a whole. The unsolved problem relates to the fact that chronic conditions account for some 80% of total health care expenditures in the United States and the elderly have a higher prevalence of chronic degenerative disease than the young. Approximately 80% of older adults have one chronic disease, and 68% have two or more.

Our technology platforms reflect over 25 years of research and development in cell immortality and regenerative medicine. It is designed to address some of the largest unmet needs of an aging population by translating state-of-the-art laboratory science relating to aging into therapeutic biologicals, drugs, and devices.

Overview of Our Product Candidates

Our Pipeline

Our product pipeline includes two cell-based and one drug-based therapeutic product candidates in development. It also includes currently-marketed online database products and research products outlined in Figure 2.

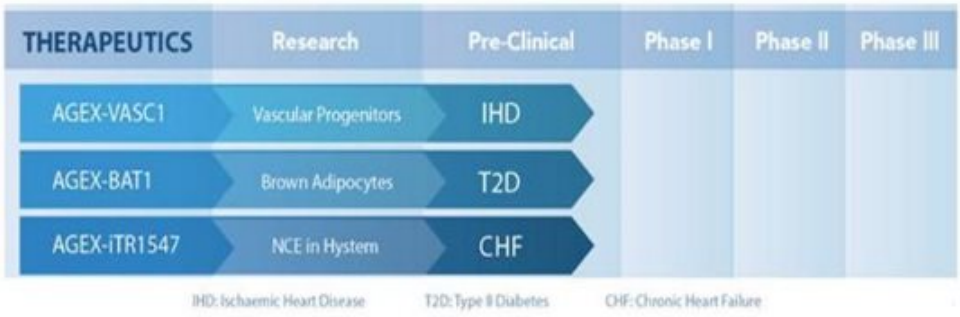

Figure 2. The AgeX product pipeline. IHD (Ischemic Heart Disease), T2D (Type II Diabetes), CHF (Congestive Heart Failure).

Our lead cell-based therapeutic candidates in development are AGEX-BAT1 and AGEX-VASC1:

- AGEX-BAT1 is our lead cell therapy product candidate in the discovery stage of development utilizing PSC-derived brown adipocytes for the treatment of certain age-related metabolic disorders such as Type II (adult-onset) diabetes.

- AGEX-VASC1 is a cell-based therapy in the discovery stage of development comprised of young regenerative vascular-forming cells. AGEX-VASC1 may restore vascular support in aged ischemic tissues such as the ischemic heart.

Our lead drug-based therapeutic candidate in discovery is AGEX-iTR1547 *:*

- AGEX-iTR1547 is a drug-based formulation in the discovery stage of development intended to potentially restore regenerative potential in a wide array of aged tissues afflicted with degenerative disease using our proprietary iTR technology.

Our currently marketed research and database products include cGMP ES Cells (human embryonic stem or "hES") cells produced under current good manufacturing practices (or "cGMP"), PSC-derived cells for research, and our *GeneCards* Database Suite:

- cGMP PSC lines and PSC-derived cells for research: Through our ESI BIO division, we market cGMP PSC lines as well as PSC-derived cells.

- *GeneCards* Database Suite: Through our subsidiary LifeMap Sciences, Inc. ("LifeMap Sciences"), we currently market genomic interpretation algorithms and analysis tools for use by researchers at pharmaceutical and biotechnology companies and other institutions through paid subscriptions or on a fee-per-use basis .

Technology Platforms

The technology underlying our product development programs is based on telomerase-mediated cellular immortality and regenerative biology. By "telomerase-mediated cellular immortality" we refer to the fact that cells that express sufficient levels of a protein called telomerase are capable of replicating without limit. By "regenerative biology," we refer to novel methods to regenerate tissues afflicted with age-related chronic degenerative disease such as coronary disease, heart failure, and age-related metabolic disorders such as those associated with Type II diabetes, osteoarthritis, or Parkinson's disease, as well as others. We utilize telomerase-expressing regenerative Pluripotent Stem Cells, or PSCs, for the manufacture of cell-based therapies. We own or have licensed numerous patents and patent applications covering methods and compositions relating to this technology platform.

Background of Human Aging

Cell Immortality

There is a growing consensus in the scientific community that human aging is due in large part to the aging of individual cells in the various tissues of the body (somatic cells). In contrast, the reproductive lineage of cells (germ-line) perpetuate the human species from generation-to-generation without limit and continue to generate new people over the millennia.

In 1961, Dr. Leonard Hayflick first reported that normal human cells in the body (unlike the germ-line) can proliferate for only a finite number of times (typically fewer than 100 times). This phenomenon, known as the "Hayflick Limit", "cell mortality", or "cellular aging", is a normal property of somatic cells. In the 1990s, our CEO Dr. Michael D. West founded a biotechnology company called Geron Corporation where his team isolated for the first time the human gene called "Telomerase Reverse Transcriptase" or "telomerase." In 1998, Geron scientists in collaboration with scientists at the University of Texas Southwestern Medical Center at Dallas, published the result that telomerase could stop the aging of human cells, or could "immortalize" them.

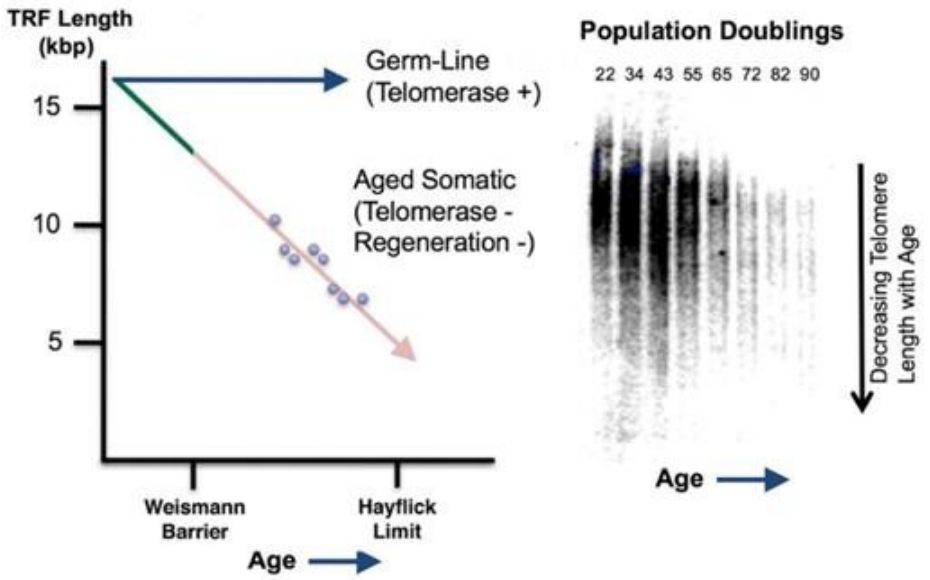

Figure 3. The Germ-line/soma dichotomy wherein germ-line cells express telomerase, maintain telomere length, and exhibit replicative immortality, while body (somatic) cells lack telomerase, showing progressive telomere shortening until they reach the Hayflick limit.

In 1994, Dr. West's group demonstrated through an assay for measuring telomerase activity that nearly 90% of cancer cell types cultured in the laboratory or tumors surgically removed from patients abnormally express telomerase. This broke the then dogma that there was no common mechanism at work in cancer. Scientists have concluded that cell mortality, while being detrimental in old age, benefits us early in life by helping to repress cancer cell growth. Figure 3 illustrates this dichotomy wherein immortal cells such as the germ-line cells that perpetuate the species are immortal through telomerase activity while body (somatic) cells lack telomerase expression, and as a result show progressive telomere shortening and a finite lifespan (are mortal).

The Weismann Barrier

Early in the evolution of life, primitive unicellular and even multicellular organisms may have lacked programmed aging as a result of the potential of their cells having the potential for both replicative immortality and regeneration. However, in more complex animals such as mammals, somatic cells lose not only replicative immortality, but after most organ systems are formed during embryonic development, they also lose full regenerative potential. This repression of both telomerase-mediated cell immortality and regeneration potential is called the "Weismann Barrier" (see Figure 4).

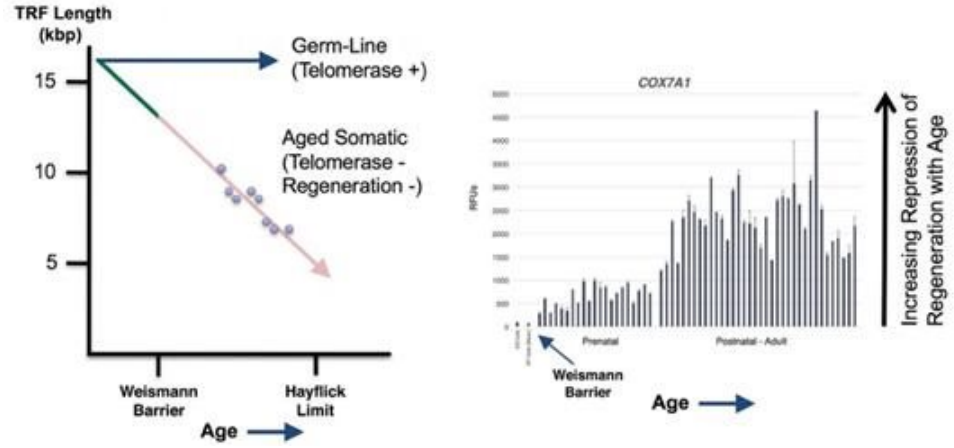

Figure 4. The Weismann Barrier coincides with the loss of both replicative immortality and regeneration. Levels of expression of the gene *COX7A1* provide a useful marker of the loss of regenerative potential.

PSCs represent the earliest stages of human development and are the first normal human cells cultured in the laboratory that display both telomerase-mediated replicative immortality and regenerative potential. Therefore, our scientists utilized these cells as well as the primitive regenerative cells derived from them, called " *PureStem* ® " cell lines, in research where they were compared to diverse adult cells on the mortal side of the Weismann barrier to uncover the mechanisms regulating the loss of regenerative potential. Artificial intelligence algorithms were used to parse millions of gene expression data points and the results were published in late 2017 . Figure 4 shows the Weismann Barrier and the associated rise of a gene expression marker of the non-regenerative state designated *COX7A1* . This proprietary marker, along with other insights obtained from the research, provides us with a window into this biology and a means of screening for agents capable of restoring a regenerative state to old nonregenerative cells. It is anticipated that such agents may not only reset the pattern of gene expression in adult cells back to that their regenerative counterparts but may also induce tissue regeneration when applied *in vivo* in the context of age-related degenerative disease. Since the previously mentioned 2017 publication described the re-emergence of the regenerative phenotype in the majority of cancer cell lines, the discoveries may open the door to potentially important diagnostic and therapeutic implications as well.

Pluripotent Stem Cells (PSCs)

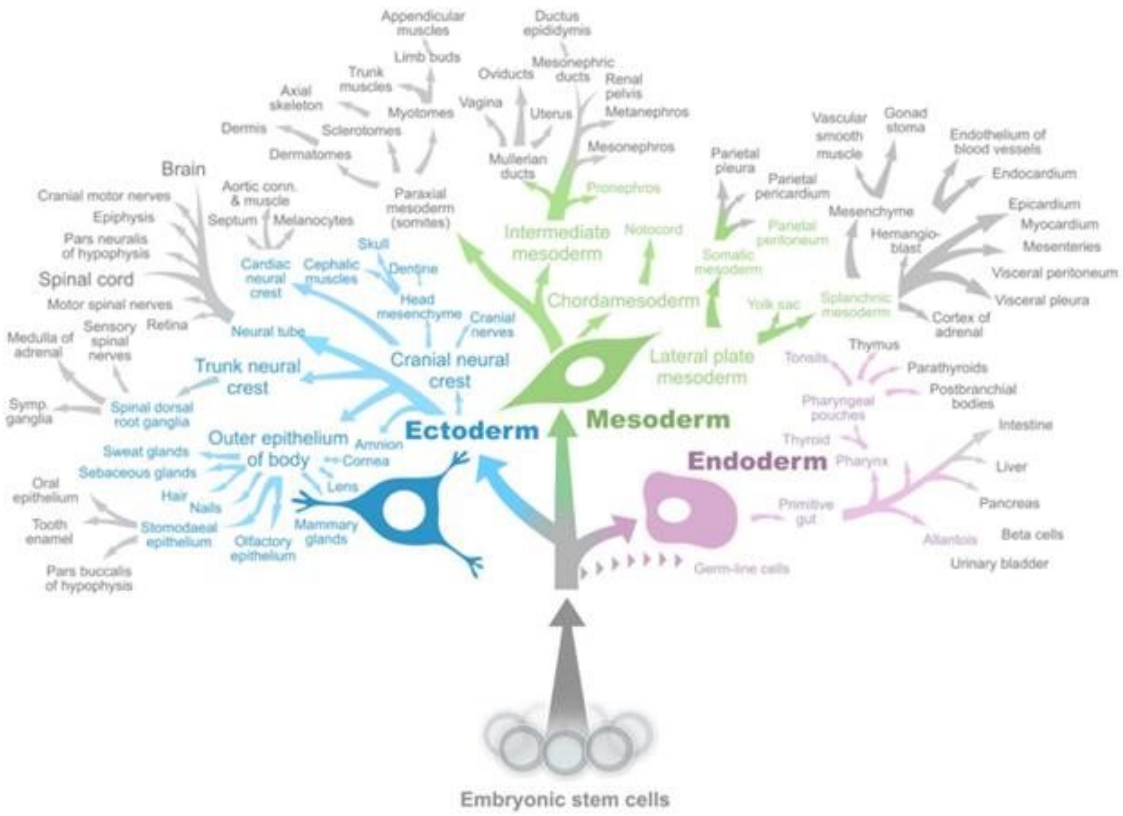

Figure 5. Pluripotent Stem Cells (PSCs) possess both telomerase-mediated replicative immortality and regenerative potential, capable of producing all human cell types.

In an effort to utilize telomerase-mediated immortality and regenerative biology in the development of novel therapeutics, in the mid-1990s, Dr. West, organized a collaboration with Drs. James Thomson, John Gearhart, and Roger Pedersen that led to the first isolation of PSCs. In contrast to other types of cells, PSCs are unique by at least two important criteria. The first criterion relates to the ability of pluripotent cells to proliferate, or make more copies of themselves, indefinitely, that is to say, they are "immortal". The second relates to the ability of PSCs to differentiate into any of the hundreds of specialized cell types in the body. This replicative immortality of PSCs facilitates the industrial scalability of product. We believe that many of these cell types have potential for regenerating function in tissues damaged by degenerative diseases when transplanted. A small sampling of these cell types is shown in Figure 5. Unlike PSCs, adult stem cells typically have severely-reduced scale-up potential (are mortal unlike immortal PSCs), and have passed the Weismann Barrier, and are therefore limited in their ability to regenerate normal tissue when transplanted *in vivo* . Therefore, we believe that PSC - based cellular therapeutics have significant competitive advantages over cell-based therapeutics being developed by many adult stem cell companies.

Our Technology Platforms

PureStem ® *Technology*

Regulatory approval of cell- and tissue-based products require high standards of quality control. In the case of stem cell-derived products, there is a high standard for insuring the known identity, purity, and reproducibility of the cells to be administered. PSCs provide certain advantages over adult stem cell products when used in the manufacture of cell-based therapeutics for the treatment of age-related disease. These advantages include:

- The replicative immortality of the PSCs which facilitates the indefinite scale-up of PSC master cell banks for the manufacture of uniform product, as well as an immortal substrate for targeted genetic modifications.

- Since most PSCs maintain long and stable telomere lengths, the replicative capacity of derived differentiated cell types is typically longer (younger) than adult or even fetal-derived cells.

- Using *PureStem* ® technology, it is possible to clonally expand hundreds of purified, identified, and reproducibly scalable cell types that retain regenerative potential (have not passed the regeneration limit).

PureStem ® technology is based on the observation that embryonic anlagen of many tissues in the human body are naturally comprised of highly proliferative cells with relatively long telomere length. Therefore, it is possible to generate clonal lineages of these cells *in vitro.* Cells derived from adult tissues commonly permanently cease to divide after a certain number of doublings, a condition known as senescence. In addition, adult and even fetal tissues largely contain differentiated cells often with limited or no capacity of replication *in vitro* . As a result, the clonal expansion of human embryonic progenitor cell types allows not only a novel and more facile point of scalability but also generates populations of cells that are multipotent instead of pluripotent, and therefore markedly easier to define identity, purity, and potency.

We have studied the fate of over 200 diverse *PureStem* cell lines in thousands of differentiation conditions. This was accomplished by thawing individual cryopreserved *PureStem* cell lines, culturing them in the laboratory, and then exposing the cells to factors that differentiate cells such as protein growth and differentiation factors, hormones, and small molecules implicated in causing cells to change from one type of cell into another (differentiation). Using individual cells from the over 200 diverse *PureStem* cell lines previously isolated and cryopreserved, we treated the diverse cells with thousands of differentiation conditions, prepared RNA, and determined the gene expression pattern of the cells using gene expression microarrays. These experiments have shown that the *PureStem* cell lines display site-specific markers that identify not only the type of cells, but also where in the body the cells would normally reside. Therefore, in the example of cartilage cells, it was possible to produce diverse types of cartilage in this manner. We have licensed from BioTime *PureStem* applications outside of orthopedics, medical aesthetics, and certain ophthalmological applications.

We have chosen two *PureStem* applications for our initial product development based on unmet medical need along with other factors. The first product candidates are Brown Adipose Tissue (BAT) cells for the treatment of metabolic disorders such as obesity or Type II diabetes, and vascular endothelial progenitors for the treatment of age-related ischemic disease such as that leading to myocardial ischemia and infarction. These cells will be formulated in a delivery matrix designated *HyStem* ® to promote viability of the graft as well as to localize the cells to the intended site in the body. See "—Overview" and "—Our Target Market."

HyStem ® *Delivery Technology*

HyStem ® is a patented biomaterial that mimics the extracellular matrix that is the structural network of macromolecules surrounding cells in the body. The extracellular matrix is essential for normal cellular function and survival of transplanted cells. Many tissue engineering and regenerative cell-based therapies are expected to benefit from the delivery of therapeutic cells in a matrix for precise localized delivery and survival. *HyStem* is a unique hydrogel that has been shown to support cellular attachment *in vivo.* Current research at medical institutions has shown that *HyStem* is compatible with a wide variety of cells and tissue types including those of the brain, bone, skin, cartilage, vascular system and heart. The technology underlying *HyStem* hydrogels was developed at the University of Utah and was been exclusively licensed to BioTime for human therapeutic applications and sublicensed to AgeX for certain fields. The *HyStem* technology is based on a unique thiol cross-linking chemistry to prepare hyaluronan-based matrices as hydrogels. Since the first published report in 2002, there have been numerous academic scientific publications supporting the biocompatibility of thiol cross-linked hyaluronan-based matrices and their applications as medical devices and in cell culture, tissue engineering, and animal models of cell-based therapies.

Figure 6. AgeX plans to utilize the *HyStem* technology for the delivery of cell-based therapeutics.

Due to the unique cross-linking chemistry, *HyStem* matrices have the ability to be safely combined with living cells and subsequently injected or applied locally as a hydrogel which allows the gel to conform to the three-dimensional contour of a tissue. Building upon this platform, we initially plan to use *HyStem* for cell-based therapy.

The building blocks for *HyStem* hydrogels may vary with the application but typically include combinations of hyaluronan, gelatin, or heparin, each of which has been thiol-modified. Hydrogels are formed by cross-linking mixtures of these thiolated macromolecules with polyethylene glycol diacrylate (PEGDA). The rate of gelation and the hydrogel stiffness can be controlled by varying the amount of cross-linker. An important attribute of *HyStem* hydrogels is their large water content, over 98%. As a result, these hydrogels have a high permeability for oxygen, nutrients, and other water-soluble metabolites.

Products and Product Candidates

Our Therapeutic Product Candidates

AGEX-BAT1 - Brown Adipose Tissue (BAT) Progenitors

Brown Adipose Tissue (BAT) is abundant early in life but lost precipitously with age. This tissue is believed to generate heat through expression of a gene called *UCP1*. In addition, the high levels of glucose and lipid uptake by the tissue is believed to balance metabolism in young people. In contrast, central obesity and Type II diabetes has been correlated with low levels of BAT.

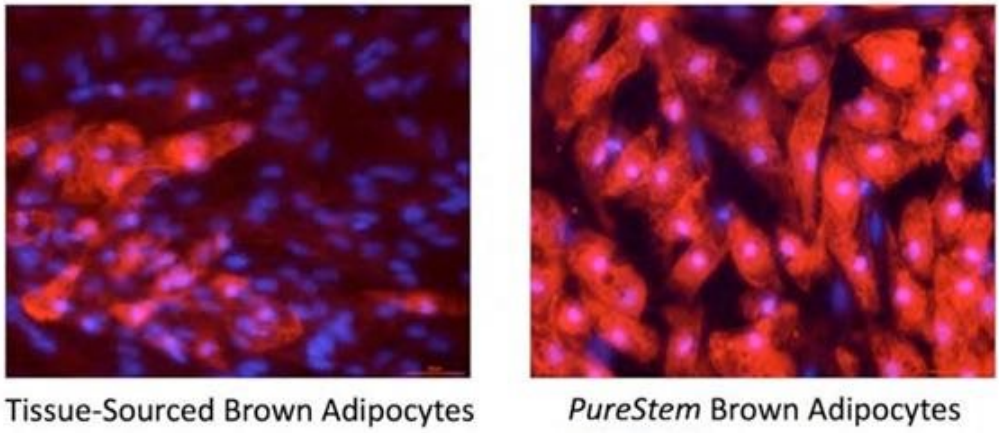

Figure 7. Human tissue-derived BAT cells (left) stained red for the presence of UCP1 show a minority of cells being true BAT cells. *PureStem* - derived AGEX-BAT1 cells are uniformly UCP1 positive.

The demonstration in published literature in the public domain that the transplantation of BAT from young mice to obese diabetic mice resulted in weight loss and increased insulin sensitivity has led to a search for a source of industrially-scalable clinical grade BAT cells as well as an appropriate matrix for lipotransfer. There currently is no FDA-approved matrix for cell transplantation. However, BioTime has completed a pivotal clinical trial of *HyStem* being developed as a replacement for whole adipose tissue in cell-assisted lipotransfer procedures. Therefore, we believe *HyStem* can be used for the delivery of BAT cells produced using *PureStem* technology. As shown in Figure 7, the *AGEX-BAT1* progenitors strongly express the BAT marker UCP1 when induced to differentiate and show a relatively high degree of purity compared to human tissue-derived BAT.

AgeX is currently optimizing process development for the initiation of preclinical development of the use of AGEX-BAT1.

AGEX-VASC1 - Vascular Progenitors

PureStem technology can also yield highly purified embryonic vascular components. As shown below, select clonal lines express markers such as VE-Cadherin (CDH5) and PECAM1, as well as VWF and other markers of venous, arterial, and lymphatic endothelium. Flow cytometry shows purity indistinguishable from 100%.

In addition to vascular endothelial cells, we have characterized vascular smooth muscle cell progenitors. This makes it possible for us to construct two of the key cellular components of arterial vessels, such as those compromised in coronary artery disease.

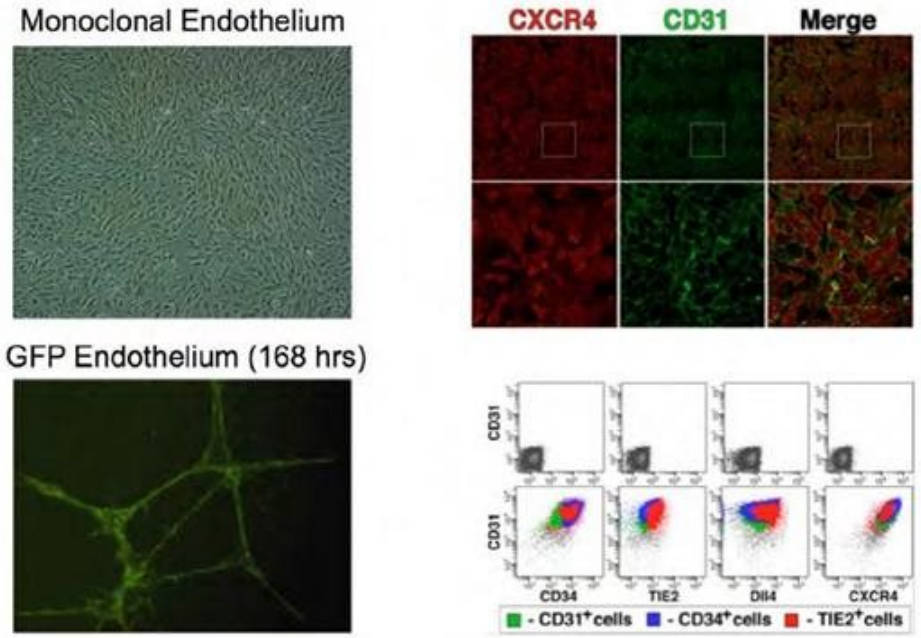

Figure 8. *PureStem* -derived vascular endothelial cell lines are capable of regenerating young vasculature (bottom left) and appear to have essentially 100% purity by FACs analysis.

HyStem hydrogels have been successfully used as a cell delivery matrix for endothelial progenitor cells to re-establish vasculature in hind limb ischemia models. Therefore, AgeX is currently optimizing process development for planned animal preclinical testing of AgeX-VASC1 formulated in *HyStem* for delivery into ischemic heart tissue to regenerate collateral circulation.

AGEX-iTR1547 — Induced Tissue Regeneration (iTR ™)

Leveraging our assets in pluripotency and bioinformatics, we have performed research manipulating cellular immortality and regenerative biology in human cells. In 2010, BioTime demonstrated the reversal of the developmental aging of human cells using transcriptional reprogramming technology. In 2017, we published certain markers of the Weismann barrier, and the high prevalence of a reversion back before the Weismann barrier in diverse cancer cell types cultured *in vitro* .

We extended this research to determine whether reprogramming can be modified to only reverse the aging of cells back before the Weismann Barrier, not back to pluripotency or transforming the cells into malignant counterparts. We have utilized for example the gene *COX7A1* as a marker of cells that have lost regenerative potential (crossed the Weismann Barrier).

As shown in Figure 9, our proprietary formulation AGEX-iTR1547 has demonstrated initial capability of reducing the expression of the marker gene *COX7A1* back to before the Weismann Barrier without reverting the cells to pluripotency. When implemented *in vivo* , this partial reprogramming, or iTR, would be expected to induce tissue regeneration, and when combined with telomerase, could modulate both cellular immortality and regenerative biology for therapeutic effect. We are performing research to optimize AGEX-iTR1547 in order to initiate preclinical studies of the agent on the scarless regeneration of the heart during congestive heart failure.

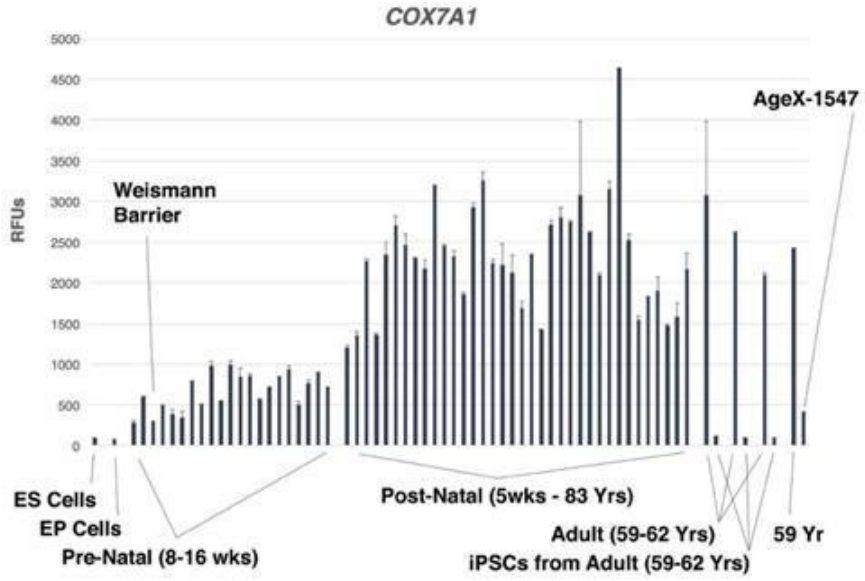

Figure 9. PSCs such as ES Cells and *PureStem* EP Cells display a regenerative capacity like cells that have not cross the Weismann Barrier. During pre- and post-natal development, skin cells become increasingly incapable of scarless regeneration as reflected in increasing *COX7A1* expression. iPS cell reprograming reverts cells back to pluripotency, while AgeX-iTR1547 reverts cells back only to a point prior to the Weismann Barrier (regenerative state).

Status and Development Plan

The product candidates we are developing are in the discovery stage of development. Prior to filing an Investigational New Drug (IND) application for the initiation of clinical trials of our initial product candidates, AGEX-BAT1, AGEX-VASC1, and AGEX-ITR1547, we will need to complete discovery-level research for the qualification of reagents used in the manufacture of the product, complete the standard operating procedures to be used (SOPs), complete the methods and documentation for characterization of the product, produce and test the genetic modifications in the master cell banks of the pluripotent stem cells under current Good Manufacturing Practices (cGMP) in order to produce product that will not illicit immune rejection following transplantation. In addition, we will be required to expand the numbers of the pluripotent stem cell master cell banks for future use, as well as produce working cell banks from which the product will be manufactured for clinical trials, produce the relevant product under cGMP conditions, expand the number of relevant cells and cryopreserve them under cGMP conditions. In addition, we will be required to design the pre-clinical studies including the study endpoints, perform biosafety testing and release the first clinical batch based on preliminary characterization results, and complete full product characterization. Biosafety testing will necessarily include pilot testing in animals such as (NOD/SCID) mice, dosing spiking studies at early and later endpoints, tumorgenicity and biodistribution studies to determine whether the cells form undesired tumors or migrate to inappropriate sites respectively in the animal. Lastly, we will need to define the clinical trial and regulatory strategy and hold Pre-Pre-IND and Pre-IND meetings with the Food and Drug Administration (FDA), as well as successfully submit an IND to the FDA and receive clearance to begin trials. Thereafter, we will need to demonstrate safety and efficacy of the product in human clinical trials in Phase I and II trials, and continued safety and efficacy for achieving the desired endpoint in Phase III trials, potentially then leading to product registration. See “Risk Factors — Risks Related to Our Business Operations” for discussion of risks relating to our preclinical development and clinical trials. These include, but are not limited to, failure to successfully complete the aforementioned studies due to the failure of the product, processes, or skills of our employees, unforeseen delays in the development process, failure to raise requisite financing, or failure to receive permission from the FDA to advance product development.

Because our product candidates are still in the discovery stage, our choice of product candidates and development plans are subject to change based on a variety of factors. We may determine to abandon the development of one or more of our product candidates, or we may prioritize the development of one or more product candidates, or we may select or acquire and prioritize the development of new product candidates. Our choice and prioritization of product candidates for development will be influenced by a variety of factors, including but not limited to:

- Results of our laboratory research and any animal and clinical trials that we may conduct;
- Our analysis of third party competitive and alternative technology that may lead us to conclude that our product candidates or technologies may be non-competitive or obsolete;
- Our analysis of market demand and market prices for the products we plan to develop could lead us to conclude that market conditions are not favorable for receiving an adequate return on our investment in product development and commercialization;
- The amount of capital that we will have for our development programs and our projected costs for those programs;
- The issuance of patents to third parties that might block our use of the same or similar technology to develop a product candidate; and
- The views of the FDA and comparable foreign regulatory agencies on the pre-clinical product characterization studies required to file an IND in order to initiate human clinical testing of a therapeutic product candidate or to attain marketing approval for that product candidate, or to obtain an investigational device exemption for clinical trials, or clearance for a 510(k) application to market a medical device.

Other Products

Other Potential iTR Applications

An additional first generation iTR product candidate that we may develop is *Renelon* ™, which utilizes a repurposed drug, valproic acid, formatted in a hyaluronic acid based medium. *Renelon* would not be capable of fully transporting cells back to a regenerative state. However, our gene expression analysis of valproic acid on adult-derived human skin cells and published reports in the scientific literature on the anti-fibrotic effects of valproic acid provide scientific support of the potential use of *Renelon* to impart scarless tissue repair in the treatment of wounds or in surgical uses. Although valproic acid has been approved for medical use and is available as a generic drug for certain uses, it has not been approved for the uses we may explore and *Renelon* has not been used in clinical trials for the treatment of wounds or in surgical or other tissue repair applications. It is possible that *Renelon* , if developed, could be regulated as a medical device rather than as a drug for the use we contemplate, but there is no certainty that the FDA will consider *Renelon* to be a device.

We believe that iTR may also have applications in the diagnosis and treatment of cancer. We have filed patents on methods of both inducing iTR in cells and maturing them and some of these methods may provide novel diagnostic and therapeutic strategies for cancer.

Online Database Products

We, through our subsidiaries LifeMap Sciences and LifeMap Sciences Ltd, which are collectively referred to as LifeMap Sciences, conduct operations in the U.S. and Israel to commercialize the *GeneCards* Database Suite, which includes the relational databases *GeneCards* ® and *MalaCards* ™ licensed from the Yeda Research and Development Company Ltd., the technology transfer company of the *Weizmann* Institute of Science in Rehovot, Israel. The *GeneCards* Database Suite had approximately 3.5 million unique users in 2017 from diverse academic and commercial institutions. LifeMap Sciences obtains revenues from advertising as well as subscriptions from commercial entities. LifeMap Sciences also is building a product designated *TGex* ™, which provides reports generated by the *GeneCards* knowledgebase intended for use by health care institutions and containing condensed information on particular genomic profiles of patients.

ESI BIO Research Products

We, through our ESI BIO research product division, market a number of products related to pluripotent stem cells including, research-grade as well as cGMP-grade human PSC lines. We plan to contract with third parties where the third parties to allow them to utilize cGMP PSCl lines in defined fields of application in exchange for certain compensation including the payment of royalties to us if they are successful in developing and commercializing a product.

Subsidiaries

As of, and for the year ended December 31, 2018, AgeX consolidated the following subsidiaries:

Subsidiary	Field of Business	AgeX Ownership	Country
ReCyte Therapeutics	Early stage pre-clinical research and development involved in stem cell-derived endothelial and cardiovascular related progenitor cells for the treatment of vascular disorders, ischemic conditions and brown adipocytes for type-2 diabetes and obesity	94.8%	USA
LifeMap Sciences (1)	Biomedical, gene and disease databases and tools	81.7%	USA

(1) LifeMap Sciences includes LifeMap Sciences, Inc. and its wholly-owned subsidiary LifeMap Sciences, Ltd. an Israeli company.

All material intercompany accounts and transactions between AgeX and its subsidiaries have been eliminated in consolidation.

Manufacturing

Our success will depend in part on our ability to manufacture high quality cells, matrices, and small molecules. Unlike drug manufacturing, this quality needs to be performed at the beginning of the process of using PSCs. Therefore, we have acquired from BioTime cGMP-compatible stem cell lines. We currently operate under a shared facilities agreement with BioTime, but we plan to sublease a facility at which we can establish a cGMP laboratory suitable for manufacturing cell lines and our cell based product candidates. We also will require additional personnel and contracted services to comply with quality manufacturing processes and controls.

Facilities

On March 21, 2019, we entered into a sublease of an office and research facility (the "New Facility") comprising approximately 23,911 square feet of space in a building in an office and research park at 965 Atlantic Avenue, Alameda, California. We plan to operate our principal offices and research laboratory at the New Facility. The commencement of the sublease and our obligation to pay rent is subject to the conditions that the master landlord approves the sublease, our plans for constructing certain laboratory improvements, and our use of certain reagents in our laboratory in the New Facility (the "Preconditions").

If the Preconditions to the effectiveness of our sublease are satisfied, the New Facility will replace our use of the laboratory and office facilities that have been provided by BioTime. BioTime has a lease of approximately 30,795 square feet of rentable space in two buildings located in an office park setting in Alameda, California. Under a Shared Facilities and Services Agreement (the "Shared Facilities Agreement") with BioTime, we have had use of approximately 2,239 square feet of allocated laboratory and office space at BioTime's Alameda facility and use of approximately 18,000 square feet of common areas which we share with BioTime and its subsidiaries and affiliates in the same facility. BioTime's facilities do not provide us with laboratory space for the manufacture of cell lines or our cell based product candidates under cGMP conditions.

If the Preconditions to the sublease of the New Facility are not satisfied and our sublease does not go into effect, we will need to find an alternative facility to lease for the manufacture of cell lines and our cell based product candidates under cGMP conditions and there can be no assurance that we will be able to lease suitable facilities on acceptable terms. In the alternative, we may seek to enter into manufacturing agreements with third parties that have suitable facilities and know-how to manufacture cell lines and product candidate lots for us under cGMP conditions. However, there is no assurance that we will be able to enter into contract manufacturing agreements on acceptable terms.

Commercialization Plan

With the exception of our research product sales which generate a trivial amount of revenues, we currently have no commercialized or marketed products such as FDA-approved drugs in our portfolio. As a result, we have not yet assembled an infrastructure for sales and marketing. At the point in time, if ever, that our product candidates approach clearance or approval, we plan to develop a commercial plan that may initially include strategic marketing partnerships.

Intellectual Property

Patents and Trade Secrets

We rely primarily on patents and contractual obligations with employees and third parties to protect our proprietary rights. We have sought, and intend to continue to seek, appropriate patent protection for important and strategic components of our proprietary technologies by filing patent applications in the U.S. and certain foreign countries. There are no assurances that any of our intellectual property rights will guarantee protection or market exclusivity for our products and product candidates. We also use license agreements both to access technologies developed by other companies and universities and to convey certain intellectual property rights to others. Our financial success will be dependent, in part, on our ability to obtain commercially valuable patent claims, to protect and enforce our intellectual property rights, and to operate without infringing upon the proprietary rights of others if we are unable to obtain enabling licenses.

The patents for our core programs are summarized below.

AGEX-BAT1

Brown Adipose Tissue (BAT) Progenitor Cells : The pending patent applications related to BAT progenitor cells, which are owned by AgeX, include U.S. and international patent applications. The applications are directed to the differentiation of pluripotent stem cells (including hES cells) into progenitor cell types capable of making the cellular components of brown fat. The patents also describe culture and purification methods. The approximate expiration dates of the BAT patents, if issued, will range from 2034 to 2036. The AGEX-BAT1 product may also rely on the *HyStem* patents, which are described in detail below under the heading " *HyStem* ® *Technology* ".

AGEX-VASC1

Vascular Progenitors: The pending patent application pertaining to purified vascular progenitor cells and embryonic vascular components are owned by AgeX or an AgeX subsidiary or licensed from BioTime. The patents include U.S. patent applications and are directed to methods to enhance vascular tube networks, compositions of pericyte progenitor cells, compositions of exosomes containing angiogenic molecules, compositions of vascular and lymphatic cells, and methods to culture and purify the cells or components thereof. The approximate expiration dates of the vascular progenitor patents, if issued, range from 2032 to 2038. We plan to file an international patent application claiming priority from a pending US provisional application by the filing deadline, which could lead to a patent that if issued would expire in 2039. The AGEX-VASC1 product may also rely on the *HyStem* patents, which are described in detail below, under the heading " *HyStem* ® *Technology* ".

AGEX-iTR1547

Induced Tissue Regeneration (iTR ™ *)* : The pending patent applications related to the iTR programs, which are owned by AgeX, include applications pending, for example, in the United States, Australia, Canada, China, Europe, Japan and a pending international patent application. These patent applications are directed to compositions and methods for healing damaged tissue using the iTR treatment methods. The patent applications are also directed to treatment methods by regenerating aging tissue by modulating genes involved in tissue regeneration, including reprogramming cells and tissues back to a regenerative state. The approximate expiration dates of the iTR patents, if issued, will range from 2034 to 2039.

Other AGEX Licensed and Sublicensed Patents

PureStem ® *Progenitor Cells:* The patents and pending applications related to our *PureStem* ® technology include patents and applications in the United States, Canada, Europe and Australia. These patents are directed to methods for generating diverse isolated progenitor cell lines which generally do not express *COX7A1* and combinations of other methods for employing pluripotent stem cell lines suitable for clinical use. The pending applications are directed to clonally purified human embryonic progenitor cell lines and methods for reproducible, large scale production of clonally purified human embryonic progenitor cells, compositions and methods for generating diverse cell types, and assays useful in identifying hES cell lines and pluripotent cells resulting from the transcriptional reprogramming of somatic cells that have embryonic telomere length. The approximate expiration date of the *PureStem* ® issued patents is 2031 and the approximate date of expiration of the pending patents, if issued, will range from 2029 to 2032.

The *PureStem* ® patent portfolio includes patents and pending applications licensed from Advanced Cell Technology, Inc., which later became Ocata Therapeutics, Inc. ("Ocata"). The Ocata issued patents cover methods for reprogramming animal differentiated somatic cells to undifferentiated cells and methods for producing differentiated progenitor cells using morula-derived or inner cell mass cells from a blastocyst and expire from approximately 2020 to 2026. The Ocata pending applications relate to methods for the derivation of cells that have a reduced differentiation potential using PSCs, methods for reprogramming animal differentiated somatic cells to undifferentiated cells and methods for producing differentiated progenitor cells using morula-derived or inner cell mass cells from a blastocyst. The Ocata pending patents, if issued, will expire between 2020 and 2026.

HyStem ® *Technology* : AgeX has a sublicense to the *HyStem* technology from BioTime and the technology was originally developed by the University of Utah Research Foundation with patents issued in the United States, Canada, Switzerland, Germany, Spain, France, UK, Ireland, Italy, Luxembourg, Monaco, Japan, Australia, and South Africa. The patents have claims covering compositions, pharmaceutical compositions with living cells methods of crosslinking, methods of making, methods of administering the compositions, and the use of the synthetic extracellular matrix in both research and clinical applications. The expiration dates of the *HyStem* ® patents range from 2023 to 2027.

ESI Human Embryonic Stem Cell (*hES*) Cell Lines: AgeX licenses rights to the ES Cell International Pte. Ltd. patent portfolio with patents issued in the United States, Australia, Israel, UK, Singapore, Japan, and applications pending in the US and Europe. The patents are directed to methods for the differentiation of or enhancing the differentiation of stem cells into cardiomyocytes, neural cells, and pancreatic endoderm cells, compositions of pancreatic progenitor cells, methods of promoting the attachment, survival and/or proliferation of substantially undifferentiated stem cells in culture, methods for identifying and selecting cardiomyocytes, methods of freezing stem cells or progenitor cells, methods for identifying cardiogenic factors, compositions and methods for modulating spontaneous differentiation of a stem cell, methods of modulating the differentiation of undifferentiated, pluripotent human embryonic stem cells in culture, isolated endodermal progenitor cells, methods for transducing human embryonic stem cells, cell culture systems. The pending applications are directed to methods for the differentiation of hES cells into the three cell lineages, including for example cardiomyocytes, skeletal muscle cells, vascular endothelial cells, and pancreatic endoderm cells, as well as, various culture and purification methods and compositions and methods of treatment. The ESI issued patents will expire from 2019 to 2027, and the approximate date of expiration of the pending patents, if issued, will range from 2022 to 2027.

UniverCyte (HLA-G) Technology: In August 2018, we acquired from Escape Therapeutics patents and patent applications related to HLA-G-modified cells and methods of generating allogeneic cells with reduced risk of being rejected by patients regardless of the HLA class I haplotype. The patents and pending application related to our HLA-G modified cells technology include patents issued in the United States, Australia and Japan and applications are pending in the United States, Australia, Canada, China, Europe, Japan, Korea, and Singapore. The patents are directed to cells which are genetically modified to express a Human Leukocyte Antigen-G (HLA-G) and have reduced immunogenicity and improved immunosuppression, and nucleic acid compositions useful for generating the genetically modified cells. The pending applications are directed to compositions and methods for generating cells which are genetically modified to express HLA-G having reduced immunogenicity and improved immunosuppression, nucleic acid compositions useful for generating the genetically modified cells, and methods of producing artificial tissues using the genetically modified cells. The approximate expiration date of the UniverCyte™ (HLA-G) issued patents is 2033 and the approximate date of expiration of the pending patents, if issued, will also be 2033. We intend to use the UniverCyte™ technology in the development of our two lead product candidates, AGEX-BAT1 and AGEX-VASC1 for the treatment of Type II diabetes and cardiovascular aging, respectively. In addition, we may seek to license out or form collaborations for the use of our UniverCyte™ technology.

General Risks Related to Obtaining and Enforcing Patent Protection

There is a risk that any patent applications that we file and any patents that we hold or later obtain could be challenged by third parties and be declared invalid or infringing on third party claims. Litigation, interferences, oppositions, inter partes reviews or other proceedings are, have been and may in the future be necessary in some instances to determine the validity and scope of certain of our proprietary rights, and in other instances to determine the validity, scope or non-infringement of certain patent rights claimed by third parties to be pertinent to the manufacture, use or sale of our products. We may also face challenges to our patent and regulatory protections covering our products by third parties, including manufacturers of generics and biosimilars that may choose to launch or attempt to launch their products before the expiration of our patent or regulatory exclusivity. Litigation, interference, oppositions, inter partes reviews, administrative challenges or other similar types of proceedings are unpredictable and may be protracted, expensive and distracting to management. The outcome of such proceedings could adversely affect the validity and scope of our patent or other proprietary rights, hinder our ability to manufacture and market our products, require us to seek a license for the infringed product or technology or result in the assessment of significant monetary damages against us that may exceed any amounts that we may accrue on our financial statements as a reserve for contingent liabilities. An adverse determination in a judicial or administrative proceeding or a failure to obtain necessary licenses could prevent us from manufacturing or selling our products. Furthermore, payments under any licenses that we are able to obtain would reduce our profits derived from the covered products and services.

The enforcement of patent rights often requires litigation against third-party infringers, and such litigation can be costly to pursue. Even if we succeed in having new patents issued or in defending any challenge to issued patents, there is no assurance that our patents will be comprehensive enough to provide us with meaningful patent protection against our competitors.

In addition to relying on patents, we rely on trade secrets, know-how, and continuing technological advancement to maintain our competitive position. We have entered into intellectual property, invention, and non-disclosure agreements with our employees, and it is our practice to enter into confidentiality agreements with our consultants. There can be no assurance, however, that these measures will prevent the unauthorized disclosure or use of our trade secrets and know-how, or that others may not independently develop similar trade secrets and know-how or obtain access to our trade secrets, know-how, or proprietary technology.

Our Licensing Arrangements

License Agreement with BioTime: iTR, PureStem ® and Telomere Length

Concurrently with the contribution of assets to us by BioTime under an Asset Contribution and Separation Agreement, we entered into a License Agreement with BioTime pursuant to which BioTime has licensed to us, with rights to sublicense, certain intellectual property, including patents and patent applications and know-how for use in the development, manufacture and commercialization of products or services for the prevention, treatment, amelioration, diagnosis or monitoring of all human and non-human animal diseases and conditions except for the field of medical products, devices and services for the reserved BioTime fields of orthopedic, ophthalmic, and medical aesthetic uses (the "BioTime Exclusive Field"). In addition, BioTime retains an option right, on terms to be negotiated, to license iTR patents in research, development, manufacturing and commercialization of treatments based on iTR in the BioTime Exclusive Field. The licensed patents and know-how relate generally to (a) BioTime's *PureStem* ® human embryonic progenitor cell lines, and (b) telomere length and DNA quality control analysis in pluripotent stem cells.

The BioTime patent rights licensed to us are exclusive and worldwide except for existing third party licenses, and for medical products, devices, and services related to tendon. We additionally received an option to license certain BioTime retained rights outside of orthopedic indications unless a license grant would compete with a BioTime program or products in the BioTime Exclusive Field.

The License Agreement contains customary provisions pertaining to patent maintenance, enforcement, and defense and related cost allocations, insurance, indemnification, and termination of the license in the event of a breach or default by a party, or the bankruptcy or other insolvency event with respect to a party.

Additional License and Sublicense Agreements

BioTime and certain BioTime subsidiaries also entered into agreements pursuant to which they have licensed or sublicense to us, on a non-exclusive, world-wide, royalty bearing basis, certain additional patents and patent rights and know-how relating to BioTime *HyStem* ® hydrogel technology, human embryonic progenitor cell technology, and human pluripotent stem cell lines and technology for use outside the BioTime Exclusive Fields, or in the case of certain sublicense rights, fields previously licensed to third parties.

Hydrogel Patent License and Sublicense

BioTime has granted to us a sublicense of certain patents licensed to BioTime by the University of Utah Research Foundation (the "Utah Sublicense"), and has granted to us a direct license of certain patents held by BioTime (the "HyStem License"), related to *HyStem* ® hydrogel technology for use outside of the BioTime Exclusive Field for products that include cells and that are covered by certain other patents contributed, licensed, or sublicensed to us by BioTime. We may only develop, sell, and otherwise commercialize a product under the Utah Sublicense and HyStem License if we spend at least a low seven figure amount on research with respect to the product. BioTime will agree to provide us with a reasonable amount of the hydrogel product for the purpose of our research for we will pay BioTime's cost of manufacturing and supplying the hydrogel.

The Utah Sublicense and the HyStem License will not permit sublicensing and will be non-exclusive for medical products, devices, and services related to human tendon, and will be exclusive for all other licensed fields. The Utah Sublicense and HyStem License will expire upon the latest expiration date of a sublicensed or licensed patent, unless terminated earlier pursuant to the respective agreements. We will pay BioTime a royalty, in an amount not exceeding 10 percent, on "net sales" as defined in the Utah Sublicense and HyStem License. Commencing June 30, 2019, and for each 12-month period thereafter, we will pay BioTime a minimum royalty in the low five figures regardless of the actual amount of net sales for the applicable period.

The foregoing description of the HyStem License and the Utah Sublicense is qualified in its entirety by reference to the HyStem License Agreement and the Utah Sublicense Agreement, copies of which are filed as Exhibits to our Registration Statement on Form 10 and are incorporated herein by reference.

Sublicense of Certain Progenitor Patents

BioTime has granted to us a sublicense of certain patents licensed to BioTime that pertain to the derivation of human embryonic progenitor cell lines. The sublicense will permit us to use the sublicensed patents for the treatment, palliation, diagnosis, or prevention of any disease, disorder or health condition outside of the BioTime Exclusive Field. The sublicense expires the later of July 10, 2028 or the latest expiration date of a sublicensed patent, unless terminated earlier pursuant to the terms of the sublicense.

We will pay BioTime a royalty on "net sales," as defined in the sublicense agreement, until the royalty payments to BioTime's licensor by BioTime total $1.2 million and thereafter will pay to BioTime a low single digit royalty on its own net sales and a low double digit royalty on sublicensing consideration.

If we grant a sublicense to use the patents, we will pay BioTime a portion of any consideration received for a sublicense, including but not limited to, upfront payments and milestones, and non-cash exchanges or considerations, but not payments for developing a product, service or process. If we become obligated to pay royalties to one or more affiliates of BioTime for the use of patent rights related to this sublicense and as a result, the royalties payable to BioTime with respect to royalties under the sublicense plus the royalties payable to the affiliates would exceed a designated amount of net sales, the royalties due to BioTime may be reduced but not less than the designated amount. In addition, we will pay to BioTime a royalty on "net sales," as defined in the sublicense agreement, by the sublicensee. If we become obligated to pay royalties to one or more affiliates of BioTime for the use of patent rights related to this sublicense and as a result, the royalties payable to BioTime with respect to sales by a sublicensee plus the royalties payable to the affiliates would exceed a designated amount of net sales, the royalty due on net sales by the sublicensee may be reduced but not less than the designated amount.

The sublicense agreement includes reciprocal cross-licenses between BioTime and us with respect to any new patents that may be issued based on the use of the sublicensed patents. Any such license to BioTime will be exclusive in the BioTime Exclusive Field and nonexclusive in all other licensed fields. Any such license from BioTime to us will be for use outside the BioTime Exclusive Field and for medical products or services involving tendon. Each license will be for a term of 10 years.

The foregoing description of the sublicense agreement is qualified in its entirety by reference to the sublicense agreement, a copy of which is filed as an exhibit to our Registration Statement on Form 10 and is incorporated herein by reference.

ESI License

BioTime's subsidiary ES Cell International Pte, or ESI, has granted to us non-exclusive rights to certain ESI patents and human pluripotent stem cell lines, or ESI Cell Lines, for use outside of the BioTime Exclusive Field and outside certain other fields for which ESI has previously granted licenses. We will pay ESI a royalty, in an amount not exceeding 10 percent, on "net sales," as defined in the license agreement. If we become obligated to pay royalties to one or more third party or to BioTime for the use of patent rights related to this license and as a result the royalties payable to ESI with respect to this license agreement plus the royalties payable to such third party or BioTime would exceed a designated amount of net sales, the royalty due on net sales by the sublicensee may be reduced. The patent license expires upon the latest expiration date of a licensed patent, unless terminated earlier pursuant to the terms of the license. All other rights under the license are terminable by either party under the conditions specified in the license.

If we grant rights to any third party to use ESI Cell Lines derived under cGMP, we will pay ESI a share of all consideration that we receive as consideration for the grant of those rights, including all cash and non-cash consideration but not royalties. We are not permitted to grant sublicenses to the licensed ESI patents but may sublicense the use of ESI Cell Lines.

The foregoing description of the ESI License Agreement is qualified in its entirety by reference to the ESI License Agreement, a copy of which is filed as an exhibit to our Registration Statement on Form 10 and is incorporated herein by reference.

Competition

The biotechnology industry is highly competitive and characterized by rapid change (even disruptive advances) that challenge the ability of any one company to maintain leadership. Therefore, we face competition on multiple fronts, including from other biotechnology companies, large pharmaceutical companies, academic institutions and government research entities. We believe the competitive advantages of our technology platform and resulting product candidates arise from the large market opportunities addressed by our product candidates, their anticipated safety profile, the expected cost of manufacture of off-the-shelf products, our intellectual property, as well the fundamental and widespread role of cell aging and regeneration in human age-related degenerative disease.

There are numerous biotechnology companies developing therapeutics for human aging, with each company often focusing on a specific molecular pathway within cells. For example, ResTORbio, Inc. is developing modulators of the mechanistic target of rapamycin (mTOR) pathway to treat immunological and cardiovascular disorders. Calico Life Sciences LLC is a Google-founded research and development company aimed at identifying molecular pathways that control animal lifespan and translating these insights into novel therapeutics designed to increase human healthspan. Calico has not disclosed its lead product development plans. Unity Biotechnology, Inc. focuses on cellular senescence, in particular, the use of agents that can target senescent cells for selective ablation (senolysis). Unity's stated targeted age-related diseases include osteoarthritis as well as other ophthalmological and pulmonary diseases.

Our therapeutic product candidates in development are likely to face competition from a large number of companies and technological strategies including therapeutics intended to address our lead indications, including:

- Type II diabetes: current standard of care treatments (though not necessarily focused on the root cause of the disease) include dieting and exercise programs to reduce weight, or pharmacological interventions with a wide array of medications, including: Metformin (Glucophage, Glumetza, or others); (DiaBeta, Glynase), glipizide (Glucotrol) and glimepiride (Amaryl); Meglitinides (repaglinide (Prandin) and nateglinide (Starlix)); Thiazolidinediones (rosiglitazone (Avandia) and pioglitazone (Actos)); DPP-4 (sitagliptin (Januvia), saxagliptin (Onglyza) and linagliptin (Tradjenta)); GLP-1 receptor agonists (exenatide (Byetta) and liraglutide (Victoza)); SGLT2 inhibitors (canagliflozin (Invokana) and dapagliflozin (Farxiga)); and insulin therapy (Insulin glulisine (Apidra), Insulin lispro (Humalog), Insulin asgpart (Novolog), Insulin glargine (Lantus), Insulin detemir (Levemir), Insulin isophane (Humulin N, Novolin N)).

- Vascular ischemiam, including myocardial ischemia: current standard of care treatments including dieting, lowered intake of cholesterol, daily aspirin as a blood thinner; pharmacological agents including but not limited to nitrates as vasodilators (nitroglycerin sublingual tablet (Nitrostat), nitroglycerin transdermal ointment (Nitro-Bid), and isosorbide mononitrate and dinitrate (Isordil, Isordil Titradose, Dilatrate-SR)); beta blockers (atenolol (Tenormin), metoprolol (Lopressor, Toprol XL), and nadolol (Corgard)); calcium channel blockers (amlodipine (Norvasc), amlodipine and atorvastatin (Caduet), amlodipine and benazepril (Lotrel), diltiazem (Cardizem), felodipine (Cardene, Cardene SR), and verapamil (Calan); cholesterol-lowering medications such as statins atorvastatin (Lipitor), rosuvastatin (Crestor), and simvastatin (Zocor); Angiotensin-converting enzyme (ACE) inhibitors (Ranolazine (Ranexa), benazepril (Lotensin), and lisinopril (Prinivil, Zestril, Qbrelis); and surgical procedures to increase circulation including but not limited to angioplasty and stenting, coronary artery bypass surgery, and enhanced external counterpulsation.

- Scarless tissue regeneration, including scarless dermal wound repair: current standard of care including but not limited to sterile dressings, over-the-counter agents such as Astragaloside IV and curcumin; biomaterials including hyaluronic acid (Seprafilm, Durolane, Euflexxa, Gel-One, GelSyn-3, GenVisc 850, Hyalgan, Hyalgan L/L, Hymovis, Monovisc, Orthovisc, Supartz FX, and Visco-3); and bioengineered skin substitutes such as Apligraf.

Many of our competitors have greater financial, collaborative, technical, regulatory, and human resources as well as products more advanced in development than our product pipeline, including products already marketed for our target indications. As a result, these competitors may have great success in obtaining regulatory approvals, reimbursement, or market acceptance. Our competitors, may have greater success in attracting qualified personnel, recruiting clinical trial sites, or in establishing strategic partnerships with larger pharmaceutical companies to fund large late-stage clinical trials or product marketing. In addition, our future business could be limited should our competitors commercialize products demonstrated to be more effective, safer, or less expensive than our comparable products.

Government Regulation and Product Approval

Government authorities at the federal, state, and local level, and in other countries, extensively regulate among other things, the development, testing, manufacture, quality, approval, safety, efficacy, distribution, labeling, packaging, storage, record keeping, marketing, import/export, and promotion of drugs, biologics, and medical devices. Authorities also heavily regulate many of these activities for human cells, tissues, and cellular and tissue-based products ("HCT/Ps").

FDA and Foreign Regulation of Therapeutic Products

The FDA and foreign regulatory authorities will regulate our proposed products as drugs, biologicals, or medical devices, depending upon such factors as: the use to which the product will be put, the chemical composition of the product, and the interaction of the product with the human body. In the United States, the FDA regulates drugs and biologicals under the Federal Food, Drug and Cosmetic Act ("FDCA"), the Public Health Service Act ("PHSA"), and implementing regulations. In addition, establishments that manufacture human cells, tissues, and cellular and tissue-based products are subject to additional registration and listing requirements, including current good tissue practice regulations. To the extent AgeX develops cellular and tissue-based products or therapies, its products will be subject to review by the FDA staff in its Center for Biologics Evaluation and Research ("CBER") Office of Cellular, Tissue, and Gene Therapies. In some instances, AgeX's clinical study protocol for a cell therapy product must be reviewed by the National Institute of Health through its Recombinant DNA Advisory Committee.

Any human drug and biological products that we may develop for testing, marketing, or use in the United States will be subject to rigorous FDA review and approval procedures. After testing in animals to evaluate the potential efficacy and safety of the product candidate, an investigational new drug ("IND") submission must be made to the FDA to obtain authorization for human testing. Extensive clinical testing, which is generally done in three phases, must then be undertaken at a hospital or medical center to demonstrate optimal use, safety, and efficacy of each product in humans. Each clinical study is conducted under the auspices of an independent Institutional Review Board ("IRB"). The IRB will consider, among other things, ethical factors, the safety of human subjects, and the possible liability of the institution.

Clinical trials are generally conducted in three "phases." Phase I clinical trials are conducted in a small number of healthy volunteers or volunteers with the target disease or condition to assess safety. Phase II clinical trials are conducted with groups of patients afflicted with the target disease or condition in order to determine preliminary efficacy, optimal dosages and expanded evidence of safety. In some cases, an initial trial is conducted in diseased patients to assess both preliminary efficacy and preliminary safety, in which case it is referred to as a Phase I/II trial. Phase III trials are large-scale, multi-center, comparative trials and are conducted with patients afflicted with the target disease or condition in order to provide enough data to demonstrate the efficacy and safety required by the FDA. The FDA closely monitors the progress of each of the three phases of clinical testing and may, at its discretion, re-evaluate, alter, suspend, or terminate the clinical trial based upon the data which have been accumulated to that point and its assessment of the risk/benefit ratio to the intended patient population. All adverse events must be reported to the FDA. Monitoring of all aspects of the study to minimize risks is a continuing process. The time and expense required to perform this clinical testing can far exceed the time and expense of the research and development initially required to create the product.

No action can be taken to market any therapeutic product in the U.S. until an appropriate New Drug Application ("NDA") or Biologics License Application ("BLA") has been approved by the FDA. Submission of the application is no guarantee that the FDA will find it complete and accept it for filing. If an application is accepted for filing, following the FDA's review, the FDA may grant marketing approval, request additional information, or deny the application if it determines that the application does not provide an adequate basis for approval. FDA regulations also restrict the export of therapeutic products for clinical use prior to FDA approval. To date, the FDA has not granted marketing approval to any pluripotent stem-based therapeutic products and it is possible that the FDA or foreign regulatory agencies may subject our product candidates to additional or more stringent review than drugs or biologicals derived from other technologies.

The FDA offers several programs to expedite development of products that treat serious or life-threatening illnesses and that provide meaningful therapeutic benefits to patients over existing treatments. A product may be eligible for breakthrough therapy designation if it treats a serious or life-threatening disease or condition and preliminary clinical evidence indicates it may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints. In 2017, FDA established a new regenerative medicine advanced therapy ("RMAT") designation as part of its implementation of the 21st Century Cures Act. An RMAT is defined as a cell therapy, therapeutic tissue engineering product, human cell and tissue product, or any combination product using such therapies or products, with limited exceptions that is intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition; and preliminary clinical evidence indicates that it has the potential to address unmet medical needs for such a disease or condition. RMAT designation provides potential benefits that include more frequent meetings with FDA to discuss the development plan for the product candidate and eligibility for rolling review and priority review. Products granted RMAT designation may also be eligible for accelerated approval on the basis of a surrogate or intermediate endpoint reasonably likely to predict long-term clinical benefit, or reliance upon data obtained from a meaningful number of sites, including through expansion to additional sites. Once approved, when appropriate, the FDA can permit fulfillment of post-approval requirements under accelerated approval through the submission of clinical evidence, clinical studies, patient registries, or other sources of real world evidence such as electronic health records; through the collection of larger confirmatory datasets; or through post-approval monitoring of all patients treated with the therapy prior to approval.

Some of our future products may be eligible for RMAT designation. There is no assurance that the FDA will grant breakthrough therapy, accelerated approval or RMAT status to any of our product candidates.

In addition to regulations in the United States, we are subject to a variety of foreign regulations governing clinical trials and commercial sales and distribution of our products. Whether or not we obtain FDA approval for a drug candidate, we must obtain approval by the comparable regulatory authorities of foreign countries or economic areas, such as the European Union, before we can commence clinical trials or market products in those countries or areas. The approval process and requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from place to place, and the time may be longer or shorter than that required for FDA approval.

Combination Products

If we develop any products that are used with medical devices, they may be considered combination products, which are defined by the FDA to include products comprised of two or more regulated components or parts such as a biologic and a device. For example, we may use *HyStem* ® hydrogels to administer one or more pluripotent stem cell-based therapy products. When regulated independently, biologics and devices each have their own regulatory requirements. However, regulatory requirements for a combination product comprised of a biologic administered with a delivery device can be more complex, because in addition to the individual regulatory requirements for each component, additional combination product regulatory requirements may apply.

510(k) Medical Devices & Notification

Product marketing in the U.S. for most Class II and limited Class I devices typically follows a 510(k) pathway. To obtain 510(k) clearance, a manufacturer must submit a premarket notification demonstrating that the proposed device is substantially equivalent to a legally marketed device, referred to as the predicate device. A predicate device may be a previously 510(k) cleared device or a device that was in commercial distribution before May 28, 1976 for which the FDA has not yet called for submission of PMA applications, or a product classification created by FDA when it granted de novo authorization. The manufacturer must show that the proposed device has the same intended use as the predicate device, and it either has the same technological characteristics, or it is shown to be equally safe and effective and does not raise different questions of safety and effectiveness as compared to the predicate device.

There are three types of 510(k)s: traditional; special, for devices that are modified and the modification needs a new 510(k) but the modification does not affect the intended use or alter the fundamental scientific technology of the device; and abbreviated, for devices that conform to a recognized standard. The special and abbreviated 510(k)s are intended to streamline review. The FDA intends to process special 510(k)s within 30 days of receipt and abbreviated 510(k)s within 90 days of receipt. Though statutorily required to clear a traditional 510(k) within 90 days of receipt, the clearance pathway for traditional 510(k)s can take substantially longer.

After a device receives 510(k) clearance, any modification that could significantly affect its safety or effectiveness, or that would constitute a major change in its intended use, requires a new 510(k) clearance or could require a PMA approval. The FDA requires each manufacturer to make this determination in the first instance, but the FDA can review any such decision. If the FDA disagrees with a manufacturer's decision not to seek a new 510(k) clearance, the agency may retroactively require the manufacturer to seek 510(k) clearance or PMA approval. The FDA also can require the manufacturer to cease marketing and/or recall the modified device until 510(k) clearance or PMA approval is obtained.

Post-Approval Matters

Even after initial FDA approval has been obtained, further studies may be required to provide additional data on safety or to gain approval for the use of a product as a treatment for clinical indications other than those initially targeted. Data resulting from these clinical trials may result in expansions or restrictions to the labeled indications for which a product has already been approved.

FDA Regulation of Manufacturing

The FDA regulates the manufacturing process of pharmaceutical products, human tissue and cell products, and medical devices, requiring that they be produced in compliance with cGMP. The FDA regulates and inspects equipment, facilities, laboratories, and processes used in the manufacturing and testing of products prior to providing approval to market products. If after receiving approval from the FDA, a material change is made to manufacturing equipment or to the location or manufacturing process, additional regulatory review may be required. The FDA also conducts regular, periodic visits to re-inspect the equipment, facilities, laboratories and processes of manufacturers following an initial approval. If, as a result of those inspections, the FDA determines that that equipment, facilities, laboratories or processes do not comply with applicable FDA regulations and conditions of product approval, the FDA may seek civil, criminal or administrative sanctions and/or remedies against the manufacturer, including suspension of manufacturing operations. Issues pertaining to manufacturing equipment, facilities or processes may also delay the approval of new products undergoing FDA review.

Federal Funding of Research

Effective July 7, 2009, the National Institutes of Health ("NIH") adopted guidelines on the use of hES cells in federally funded research, consistent with President Obama's Executive Order which rescinded President Bush's Executive Orders that permitted federal funding of research on hES cells using only the limited number of hES cell lines. The central focus of the guidelines is to assure that hES cells used in federally funded research are derived from human embryos that were created for reproductive purposes, are no longer needed for this purpose, and are voluntarily donated for research purposes with the informed written consent of the donors. Those hES cells that were derived from embryos created for research purposes rather than reproductive purposes, and other hES cells that were not derived in compliance with the guidelines, are not eligible for use in federally funded research.

California State Regulations

The state of California has adopted legislation and regulations that require institutions that conduct stem cell research to notify, and in certain cases obtain approval from, a Stem Cell Research Oversight Committee ("SCRO Committee") before conducting the research. Under certain California regulations, all hES cell lines that will be used in our research must be acceptably derived. California regulations further require certain records to be maintained with respect to stem cell research and the materials used. AgeX programs that involve the use of stem cells will be reviewed by a SCRO Committee to confirm compliance with federal and state guidelines. The hES cell lines that we use are all on the NIH registry of lines that have been reviewed and meet standards for federal funding grants.

Health Insurance Portability and Accountability Act

Under the Health Insurance Portability and Accountability Act ("HIPAA"), the Department of Health and Human Services ("HHS") has issued regulations to protect the privacy and security of protected health information used or disclosed by health care providers. HIPAA also regulates standardization of data content, codes, and formats used in health care transactions and standardization of identifiers for health plans and providers. Penalties for violations of HIPAA regulations include civil and criminal penalties.

The requirements under these regulations may periodically change and could have an effect on our business operations if compliance becomes substantially more costly than under current requirements. New laws governing privacy may also be adopted in the future. We can provide no assurance that we will remain in compliance with diverse privacy requirements in all of the jurisdictions in which we do business. Failure to comply with privacy requirements could result in civil or criminal penalties, which could have a materially adverse effect on our business.

Federal and State Fraud and Abuse Laws

We are also subject to various laws pertaining to healthcare "fraud and abuse," including anti-kickback laws and false claims laws. Anti-kickback laws make it illegal to solicit, offer, receive or pay any remuneration in exchange for or to induce the referral of business, including the purchase or prescription of a particular drug that is reimbursed by a state or federal program. False claims laws prohibit knowingly and willingly presenting or causing to be presented for payment to third-party payers (including Medicare and Medicaid) any claims for reimbursed drugs or services that are false or fraudulent, claims for items or services not provided as claimed or claims for medically unnecessary items or services. Violations of fraud and abuse laws may be punishable by criminal and/or civil sanctions, including fines and civil monetary penalties, as well as by the possibility of exclusion from federal healthcare programs (including Medicare and Medicaid). Liability under the false claims laws may also arise when a violation of certain laws or regulations related to the underlying products (e.g., violations regarding improper promotional activity or unlawful payments) contributes to the submission of a false claim.

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

Healthcare Reform

In the United States and foreign jurisdictions, there have been a number of legislative and regulatory changes to the healthcare system that could affect our future results of operations. There have been and continue to be a number of initiatives at the United States federal and state levels that seek to reduce healthcare costs.

In particular, the Affordable Care Act ("ACA") has had, and is expected to continue to have, a significant impact on the healthcare industry. The ACA was designed to expand coverage for the uninsured while at the same time containing overall healthcare costs. Substantial new provisions affecting compliance have also been enacted, which may require us to modify our business practices with healthcare providers and entities, and a significant number of provisions are not yet, or have only recently become, effective.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA, as well as efforts by the current administration to repeal or replace certain aspects of the ACA. For example, since January 2017, the President has signed two Executive Orders and other directives designed to delay, circumvent, or loosen certain requirements mandated by the ACA. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the ACA were signed into law. The Tax Cuts and Jobs Act of 2017, or the Tax Act, includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." Additionally, on January 22, 2018, the President signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain ACA-mandated fees, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. Further, the Bipartisan Budget Act of 2018, or the BBA, among other things, amends the ACA, effective January 1, 2019, to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole," and increase from 50% to 70% the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in the Medicare Part D program. There may be additional challenges and amendments to the ACA in the future. The ACA is likely to continue the downward pressure on pharmaceutical pricing and may also increase our regulatory burdens and operating costs.

Further, there has been heightened government scrutiny over the manner in which manufacturers set prices for their marketed pharmaceutical products. Such scrutiny has resulted in several recent Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to pharmaceutical product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for products. At the federal level, the current administration's budget proposal for fiscal year 2019 contains further drug price control measures that could be enacted during the 2019 budget process or in other future legislation, including, for example, measures to permit Medicare Part D plans to negotiate the price of certain drugs under Medicare Part B, to allow some states to negotiate drug prices under Medicaid, and to eliminate cost sharing for generic drugs for low-income patients. Additionally, on May 11, 2018, President Trump laid out his administration's "Blueprint to Lower Drug Prices and Reduce Out-of-Pocket Costs" to reduce the cost of prescription drugs while preserving innovation and cures. The Department of Health and Human Services has already started the process of soliciting feedback on some of these measures and, at the same, is immediately implementing others under its existing authority. Although some of these and other proposals will require authorization through additional legislation to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. At the state level, legislatures have become increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

It is uncertain whether and how future legislation, whether domestic or foreign, could affect prospects for our product candidates or what actions foreign, federal, state, or private payors for health care treatment and services may take in response to any such health care reform proposals or legislation. Adoption of price controls and other cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures reforms may prevent or limit our ability to generate revenue, attain profitability or commercialize our product candidates.

Moreover, the Drug Supply Chain Security Act imposes new obligations on manufacturers of pharmaceutical products, among others, related to product tracking and tracing, which is being phased in over several years beginning in 2015. Among the requirements of this new legislation, manufacturers will be required to provide certain information regarding the drug product to individuals and entities to which product ownership is transferred, label drug product with a product identifier, and keep certain records regarding the drug product. The transfer of information to subsequent product owners by manufacturers will eventually be required to be done electronically. Manufacturers will also be required to verify that purchasers of the manufacturers' products are appropriately licensed. Further, under this new legislation, manufacturers will have drug product investigation, quarantine, disposition, and notification responsibilities related to counterfeit, diverted, stolen, and intentionally adulterated products, as well as products that are the subject of fraudulent transactions or which are otherwise unfit for distribution such that they would be reasonably likely to result in serious health consequences or death.

Reimbursement

Medicare, Medicaid, and Third-Party Reimbursement Programs

Sales of the therapeutic products and medical devices that we and our subsidiaries may develop will depend, in part, on the extent to which the costs of those products will be covered by third-party payors, such as government health programs, commercial insurance, and managed healthcare organizations.

The containment of healthcare costs has become a priority of federal and state governments and the prices of drugs have been a focus in this effort. In the United States, the federal and many state governments have adopted or proposed initiatives relating to Medicaid and other health programs that may limit reimbursement or increase rebates that providers are required to pay to the state. In addition to government regulation, managed care organizations in the United States, which include medical insurance companies, medical plan administrators, health-maintenance organizations, hospital and physician alliances and pharmacy benefit managers, continue to put pressure on the price and usage of healthcare products. Managed care organizations and third-party payers seek to contain healthcare expenditures, and their purchasing strength has been increasing due to their consolidation into fewer, larger organizations and a growing number of enrolled patients. Adoption of price controls, cost-containment measures, and more restrictive policies in jurisdictions with existing controls and measures, could further limit our net revenue and results. If third-party payors do not consider the products we develop to be cost-effective compared to other therapies, they may not cover our products as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow us to sell our products on a profitable basis.

Efforts by government agencies and state legislatures in the United States could affect us and our industry. The ACA increased many of the mandatory discounts and rebates and imposed a new Branded Prescription Pharmaceutical Manufacturers and Importers fee payable by manufacturers. The new U.S. presidential administration has identified repealing and replacing the ACA as a priority. The timing and method of the full or partial repeal or amendment of the ACA or the adoption of new healthcare legislation remains uncertain, but impending changes will likely impact the number of patient lives covered, the quality of the insurance, Medicaid eligibility and the level of patient protections provided.

Other legislative and regulatory actions that would have a significant impact include: changes to how the Medicare program covers and reimburses current and future drugs, changes in the Federal payment rate or new rebate requirements for covered drugs and policies for payment in Medicare or Medicaid; and changes to coverage and payment for biosimilars, including the current Medicare biosimilar coverage and payment policies intended to encourage biosimilar adoption, or other policies that provide easier substitution or reimbursement advantages.

We face similar issues outside of the United States. In some non-U.S. jurisdictions, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country. For example, the EU provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for aa medicinal product, or it may instead adopt a system of direct or indirect controls on the profitability of placing a medicinal product on the market. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products. Historically, products launched in the EU do not follow price structures of the United States and generally tend to be significantly lower.

Employees

As of December 31, 2018, we employed 12 persons on a full-time basis, of which seven employees hold Ph.D.'s in one or more fields of science.

Item 1A. Risk Factors

Our business is subject to various risks, including those described below. You should consider the following risk factors, together with all of the other information included in this Report, which could materially adversely affect our proposed operations, our business prospects, and financial condition, and the value of an investment in our business. There may be other factors that are not mentioned here or of which we are not presently aware that could also affect our business operations and prospects.

Risks Related to Our Business Operations

We are a discovery-stage development company and have incurred operating losses since our inception. We anticipate that we will incur continued losses for the foreseeable future, and we do not know if we will ever attain profitability.

We are a discovery-stage therapeutics company with a limited operating history. Since our inception in August 2017, we have incurred operating losses and negative cash flows and we expect to continue to incur losses and negative cash flow in the future. Our operating losses were $11.2 million and $6.7 million for the years ended December 31, 2018 and 2017, respectively, and we had an accumulated deficit of approximately $74.1 million as of December 31, 2018. We have devoted most of our financial resources to research and development, including our preclinical development activities.

Since inception, we have financed our operations through contributions and advances from our former parent company, BioTime, and the sale of our common stock and warrants to our current stockholders. Although BioTime may continue to provide administrative support to us on a reimbursable basis, BioTime currently owns less than 5% of our outstanding common stock and we do not expect BioTime to provide future financing. Additionally, although Juvenescence is now our largest stockholder, it has no obligation to provide us with financing. There is no assurance that we will be able to obtain any additional financing that we may need, or that any such financing that may become available will be on terms that are favorable to us and our stockholders. Ultimately, our ability to generate sufficient operating revenue to earn a profit depends upon our success in developing and marketing or licensing our products and technology.

We expect to continue to incur significant additional operating losses for the foreseeable future as we seek to advance product candidates through preclinical and clinical development, expand our research and development activities, develop new product candidates, complete clinical trials, seek regulatory approval and, if we receive FDA approval, commercialize our products. Furthermore, the costs of advancing product candidates into each succeeding clinical phase tend to increase substantially over time. The total costs to advance any of our product candidates to marketing approval in even a single jurisdiction would be substantial. Because of the numerous risks and uncertainties associated with development of cell-based and drug-based therapeutics, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to begin generating revenue from the commercialization of products (other than through our LifeMap Sciences subsidiary) or achieve or maintain profitability. Our expenses will also increase substantially if and as we:

- continue our current research programs and our preclinical development of product candidates from our current research programs;
- seek to identify, assess, acquire and/or develop additional research programs and additional product candidates;
- initiate preclinical testing and clinical trials for any product candidates we identify and develop;
- establish a sales, marketing and distribution infrastructure to commercialize any product candidates for which we may obtain marketing approval;
- maintain, expand and protect our intellectual property portfolio;
- further develop our product development platform based on telomerase-mediated cellular immortality and regenerative biology;
- make payments under the Shared Facilities Agreement to BioTime for use of BioTime's scientific personnel, administrative services (including patent prosecution, certain legal services and accounting and financial services) and research facilities;
- hire additional clinical, scientific and commercial and administrative personnel to support our product development, planned future commercialization efforts and transition to a public reporting company;
- hire our own executive management personnel;

- add operational, financial and management information systems;
- acquire or lease our own administrative, research and clinical facilities; and
- acquire or in-license other commercial products, product candidates and technologies;
- make royalty, milestone or other payments under current and any future in-license agreements;
- validate and build-out a commercial-scale cGMP manufacturing facility, or contract with third-party manufacturers;
- contract with third-party suppliers; and
- operate as a public company.

Furthermore, our ability to successfully develop, commercialize and license our products and generate product revenue is subject to substantial additional risks and uncertainties. Each of our programs and product candidates will require additional preclinical and clinical development, potential regulatory approval in multiple jurisdictions, securing manufacturing supply, capacity and expertise, building of a commercial organization, substantial investment and significant marketing efforts before we generate any operating income from product sales. As a result, we expect to continue to incur net losses and negative cash flows for the foreseeable future. These net losses and negative cash flows have had, and will continue to have, an adverse effect on our stockholders' equity and working capital. The amount of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenues. If we are unable to develop and commercialize one or more of our product candidates either alone or with collaborators, or if revenues from any product candidate that receives marketing approval are insufficient, we will not achieve profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability. If we are unable to achieve and then maintain profitability, the value of our equity securities will be materially and adversely affected.

We will spend a substantial amount of our capital on discovery and preclinical research and development, but we might not succeed in developing products and technologies that are useful in medicine. If we fail to obtain necessary financing, we may not be able to complete the development and commercialization of our product candidates.

We expect to spend substantial amounts to complete the development of, seek regulatory approvals for and commercialize our product candidates. We will require additional capital beyond the proceeds of this offering, which we may raise through equity offerings, debt financings, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements or other sources to enable us to complete the development and potential commercialization of our product candidates. In addition, we may not be able to enter into any collaborations that will generate significant cash. Adequate additional financing may not be available to us on acceptable terms, or at all. Our failure to raise capital as and when needed would have a negative effect on our financial condition and our ability to pursue our business strategy. In addition, attempting to secure additional financing may divert the time and attention of our management from day-to-day activities and harm our product candidate development efforts.

Because the length of time and activities associated with successful development of our product candidates is highly uncertain, we are unable to estimate the actual funds we will require for development and any approved marketing and commercialization activities. Our future funding requirements, both near and long-term, will depend on many factors, including, but not limited to:

- the initiation, progress, timing, costs and results of our planned clinical trials for our product candidates;
- the outcome, timing and cost of meeting regulatory requirements established by the FDA and other comparable foreign regulatory authorities;
- the cost of filing, prosecuting, defending and enforcing our patent claims and other intellectual property rights;
- the cost of defending potential intellectual property disputes, including patent infringement actions brought by third parties against us or any of our product candidates;
- the effect of competing technological and market developments;
- the cost and timing of completion of commercial-scale manufacturing activities;
- the costs of operating as a public company;

- the costs of hiring additional clinical, research and operational personnel, and developing our own administrative systems and obtaining research and clinical facilities, in the event we shift away from or cease using services provided under the Shared Facilities Agreement;

- make royalty, milestone or other payments under current and any future in-license agreements in the event we begin generating sales from products derived from intellectual property under such in-license arrangements, including our Hydrogel patent license and sublicense, our license arrangement with ES Cell International Pte, a subsidiary of BioTime, and our sublicense of certain progenitor patents;

- the extent to which we in-license or acquire other products and technologies;

- the cost of establishing sales, marketing and distribution capabilities in regions where we choose to commercialize our products, if approved; and

- the initiation, progress, timing and results of our commercialization of our product candidates, if any are approved for commercial sale.

We cannot be certain that additional funding will be available on acceptable terms, or at all. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of our product candidates or potentially discontinue operations.

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

Until such time, if ever, as we can generate substantial revenue, we may finance our cash needs through a combination of equity offerings, debt financings, strategic alliances and licensing arrangements. We do not currently have any committed external source of funds. In addition, we may seek additional capital due to favorable market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may be required to relinquish valuable rights to our technologies, future revenue streams 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 product candidates that we would otherwise prefer to develop and market ourselves.

We have not tested any of our product candidates in clinical trials. Success in early development and preclinical studies or clinical trials may not be indicative of results obtained in later preclinical studies and clinical trials.

Our product candidates have never been evaluated in human clinical trials, and we may experience unexpected or adverse results in the future. We will be required to demonstrate through adequate and well-controlled clinical trials that our product candidates are safe and effective, with a favorable benefit-risk profile, for use in their target indications before we can seek regulatory approvals for their commercial sale. Any positive results that have been observed for product candidates similar to ours in preclinical animal models may not be predictive of future clinical trials in humans. Our product candidates may also fail to show the desired safety and efficacy in later stages of clinical development even if they successfully advance through initial clinical trials. Further, some or all of our cell-based therapies under development may require the genetic modification of the pluripotent master cell banks such that the resulting cells can escape immune rejection by the intended patient. There is no certainty that said genetic modification will provide a long-term solution to transplant rejection, or that said modified cells will not cause unanticipated health risks to the patient that could delay or even halt the development of the products.

Many companies in the biotechnology industry have suffered significant setbacks in late-stage clinical trials after achieving positive results in early-stage development and there is a high failure rate for product candidates proceeding through clinical trials. Data obtained from preclinical and clinical activities are subject to varying interpretations, which may delay, limit or prevent regulatory approval. Even if we demonstrate statistical significance, regulatory agencies may not accept the use of the historical control. Regulatory delays or rejections may be encountered as a result of many factors, including changes in regulatory policy during the period of product development. We cannot be certain that we will not face similar setbacks.

We do not currently have any products on the market and have not yet generated any substantial revenues from operations.

We were established and began operations in 2017. Our operations to date have been limited to the preliminary financing and staffing of our company, developing our technology and identifying and developing our product candidates. We have not yet demonstrated an ability to successfully commence or complete any clinical trials, including large-scale, pivotal clinical trials, obtain marketing approval, manufacture a research or commercial scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Typically, it takes about six to ten years to develop a new drug from the time it enters Phase 1 clinical trials to when it is approved for treating patients, but in many cases it may take longer. Consequently, predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing genetic medicine products. In addition, as a business with a limited operating history, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. We will eventually need to transition from a company with a research focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

We need to successfully develop and market or license therapeutic products or technologies in order to earn revenues in sufficient amounts to meet our operating expenses. Without significant product sales or licensing fee revenues, we will not be able to operate at a profit, and we will not be able to cover our operating expenses without raising additional capital. Should we be able to successfully develop and market any therapeutic products we may not be able to receive reimbursement for them from payers, such as health insurance companies, health maintenance organizations and Medicare, or any reimbursement that we receive may be lower than we anticipate.

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

Our choice of product candidates and our development plans for our product candidates are subject to change based on a variety of factors, and if we abandon development of a product candidate we may not be able to develop or acquire a replacement product candidate.

We may determine to abandon the development of one or more of our product candidates, or we may change the prioritization of the development of certain product candidates, or we may select or acquire and prioritize the development of new product candidates. Our choice and prioritization of product candidates for development will be influenced by a variety of factors, including but not limited to:

- the amount of capital that we will have for our development programs and our projected costs for those programs;
- competitors may develop alternatives that render our potential product candidates obsolete or less attractive;
- potential product candidates we develop may nevertheless be covered by third parties' patents or other exclusive rights;
- potential product candidates may, on further study, be shown to have harmful side effects, toxicities or other characteristics that indicate that they are unlikely to be products that will receive marketing approval and achieve market acceptance;
- potential product candidates may not be effective in treating their targeted diseases;
- our analysis of market demand and market prices for the products we plan to develop could lead us to conclude that market conditions are not favorable for receiving an adequate return on our investment in product development and commercialization;
- a potential product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all; or
- the regulatory pathway for a potential product candidate is too complex and difficult to navigate successfully or economically.

In addition, we may choose to focus our efforts and resources on a potential product candidate that ultimately proves to be unsuccessful. As a result, we may fail to capitalize on viable commercial products or profitable market opportunities, be required to forego or delay pursuit of opportunities with other product candidates or other diseases that may later prove to have greater commercial potential, or relinquish valuable rights to such product candidates through collaboration, licensing or other royalty arrangements in cases in which it would have been advantageous for us to retain sole development and commercialization rights. If we are unable to identify additional suitable product candidates for clinical development, this would adversely impact our business strategy and our financial position and share price and could potentially cause us to cease operations.

We will need to expand our organization, and we may experience difficulties in managing this growth, which could disrupt our operations.

As of December 31, 2018, we had 12 employees. We will need to significantly expand our organization and we may have difficulty identifying, hiring and integrating new personnel. Future growth would impose significant additional responsibilities on our management, including the need to identify, recruit, maintain, motivate and integrate additional employees, consultants and contractors. Also, our management may need to divert a disproportionate amount of its attention away from our day-to-day activities and devote a substantial amount of time to managing these growth activities. We may not be able to effectively manage the expansion of our operations, which may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of product candidates. If our management is unable to effectively manage our growth, our expenses may increase more than expected, our ability to generate and/or grow revenues could be reduced, and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize our product candidates and compete effectively will depend, in part, on our ability to effectively manage any future growth.

Many of the biotechnology companies that we compete against for qualified personnel and consultants have greater financial and other resources, different risk profiles and a longer history in the industry than we do. If we are unable to continue to attract and retain high-quality personnel and consultants, the rate and success at which we can discover and develop product candidates and operate our business will be limited.

The commercial success of any of our current or future product candidates will depend upon the degree of market acceptance by physicians, patients, third-party payors, and others in the medical community.

Even with the approvals from the FDA and comparable foreign regulatory authorities, the commercial success of our products will depend in part on the health care providers, patients, and third-party payors accepting our product candidates as medically useful, cost-effective, and safe. Any product that we bring to the market may not gain market acceptance by physicians, patients, third-party payors and other health care providers. The clinical development, commercialization and marketing of cell therapies are at an early-stage, substantially research-oriented, and financially speculative. To date, very few companies have been successful in their efforts to develop and commercialize cell therapies. In general, cell therapies may be susceptible to various risks, including undesirable and unintended side effects, unintended immune system responses, inadequate therapeutic efficacy, potentially prohibitive costs or other characteristics that may prevent or limit their approval or commercial use. Furthermore, the number of people who may use cell- or tissue-based therapies is difficult to forecast with accuracy. Our future success is dependent on the establishment of a large global market for cell therapies and our ability to capture a share of this market with our product candidates.

Even if we successfully develop and obtain regulatory approval for our product candidates, the market may not understand or accept them. Our product candidates represent novel treatments and are expected to compete with a number of more conventional products and therapies manufactured and marketed by others, including major pharmaceutical and biotechnology companies. The degree of market acceptance of any of our products will depend on a number of factors, including without limitation:

- the efficacy of the product as demonstrated in clinical studies and potential advantages over competing treatments;
- the prevalence and severity of the disease and any side effects;
- the clinical indications for which approval is granted, including any limitations or warnings contained in a product's approved labeling;
- the convenience and ease of administration;
- the cost of treatment, particular as additive to existing treatments;
- the willingness of the patients and physicians to accept and use these therapies and the perception of efficacy and safety of our approved products by such parties;
- the marketing, sales and distribution support for the products;

- the publicity and ethical, social and legal concerns regarding the use of embryonic stem cells for our products or competing products and treatments; and

- government regulations restricting or prohibiting our research or manufacturing processes for stem cells due to ethical, social and legal concerns regarding their use in medical research and treatment; and

- the pricing and availability of third-party insurance coverage and reimbursement.

Even if a product displays a favorable efficacy and safety profile upon approval, market acceptance of the product will initially remain uncertain. Efforts to educate the medical community and third-party payors on the benefits of the products may require significant investment and resources and may never be successful. If our products fail to achieve an adequate level of acceptance by physicians, patients, third-party payors, and other health care providers, we will not be able to generate sufficient revenue to become or remain profitable.

If the market opportunities for our product candidates are smaller than we believe they are, we may not meet our revenue expectations and, even assuming approval of a product candidate, our business may suffer.

Our projections of the number of potential users of our product candidates in the markets we are attempting to address are based on our beliefs and estimates and include several key assumptions based on our industry knowledge, industry publications, third-party research reports and other surveys. You should bear in mind the following:

- Our estimates have been derived from a variety of sources, including publications and scientific literature or market research estimating the total number of patients and currently approved or used therapies, as well as certain assumptions regarding the potential size of the market assuming broad regulatory approval or potential usage by physicians beyond the approved label, any of which may prove to be incorrect.

- The scope of approval and potential use may be significantly narrower, and the number of patients may turn out to be lower than expected.

- Competitive products or approaches may be approved or come into use by medical providers and the potentially addressable patient population for each of our product candidates may be limited or may not be amenable to treatment with our product candidates, and new patients may become increasingly difficult to identify or gain access to, any which could adversely affect our results of operations and our business.

If the actual market for any of our product candidates is smaller than we expect, our revenue may be limited and it may be more difficult for us to achieve or maintain profitability.

We will face risks related to the manufacture of medical products for any product candidates that we develop .

The manufacture of medical products, and in particular biologics, is complex and requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls, none of which we presently have. Unless we are able to raise the capital required to construct our own manufacturing facilities and are able to develop the expertise to manage and operate a manufacturing facility of our own, we may need to rely on third-party manufacturers to manufacture any products that we develop. There is no assurance that we will be able to identify manufacturers on acceptable terms or at all. Regardless of whether we do our own manufacturing or rely on third parties to manufacture products for us, we will face all risks related to the manufacture of therapeutic products for use in medicine including the following risks:

- We or any third-party manufacturers might be unable to timely formulate and manufacture our products or produce the quantity and quality required to meet our clinical and commercial needs, if any.

- We or any third-party manufacturers may not be able to execute our manufacturing procedures appropriately.

- Any third-party manufacturers we engage may not perform as agreed or may not remain in the contract manufacturing business for the time required to supply our clinical trials or to successfully produce, store and distribute our products on a commercial scale.

- We or any third-party manufacturers will be subject to ongoing periodic unannounced inspection by the United States Food and Drug Administration, or FDA, and corresponding state agencies to ensure strict compliance with cGMP and other government regulations and corresponding foreign standards. We will not have control over third-party manufacturers' compliance with applicable regulations and standards.

- We may not own, or may have to share, the intellectual property rights to any improvements made by our third-party manufacturers in the manufacturing process for our product candidates.

- Third-party manufacturers could breach or terminate their agreements with us.

- We or third-party manufacturers may experience manufacturing difficulties due to resource constraints or as a result of labor disputes or unstable political environments.

In addition, we may rely on third parties to perform release testing on our product candidates prior to delivery to patients. If these tests are not appropriately conducted and test data are not reliable, patients could be put at risk of serious harm which could result in product liability suits.

If we or any third-party manufacturers that we may engage were to encounter any of these difficulties, our ability to provide our product candidates to patients in clinical trials or to the medical market place would be jeopardized. Any delay or interruption in the supply of clinical trial supplies could delay the completion of clinical trials, increase the costs associated with maintaining clinical trial programs and, depending upon the period of delay, could require us to either commence new clinical trials at additional expense or terminate clinical trials completely.

The regulatory authorities also may, at any time following approval of a product for sale, audit our manufacturing facilities or those of our third-party contractors. If any such inspection or audit identifies a failure to comply with applicable regulations or if a violation of our product specifications or applicable regulations occurs independent of such an inspection or audit, we or the relevant regulatory authority may require remedial measures that may be costly and/or time-consuming for us or a third party to implement and that may include the temporary or permanent suspension of a clinical study or commercial sales or the temporary or permanent closure of a facility. Any such remedial measures imposed upon us or third parties with whom we contract could materially harm our business.

Additionally, if supply from one approved manufacturer is interrupted, there could be a significant disruption in commercial supply. The regulatory agencies may also require additional studies if a new manufacturer is relied upon for commercial production. Switching manufacturers may involve substantial costs and is likely to result in a delay in our desired clinical and commercial timelines.

Further, our product candidates are manufactured by starting with established master cell banks of human embryonic cells and other cells that are cryopreserved. We will be required to expand the numbers of the pluripotent stem cell master cell banks for future use, as well as produce working cell banks from which the product will be manufactured for clinical trials, produce the relevant product under cGMP conditions, expand the number of relevant cells and cryopreserve them under cGMP conditions. We may not be able to expand the numbers of the pluripotent stem cell master cell banks to provide sufficient cells for clinical trial or for commercial scale production. We may not be able to manufacture product that meets release criteria due to sterility, identity or potency issues. We may not have access or be able to make the reagents necessary to manufacture the cells and we may not have access to an adequate supply channels to transport and distribute the products. There are also risks that the cells may be destroyed by interruption in their cryopreservation by means of natural disasters such as earthquakes, power outages, or other unexpected events, or the cells may be determined to be unacceptable as a source of human cellular therapies for reasons we cannot envision. We cannot assure you that any stability or other issues relating to the manufacture of any of our product candidates or products will not occur in the future. If any of our master cell banks are lost or destroyed, including due to systems failure in the cryopreservation processes, our planned clinical trials would be severely delayed, and we would incur significant costs associated with obtaining new supply of cell banks. Accordingly, failures or difficulties faced at any level of our supply chain could adversely affect our business and delay or impede the development and commercialization of any of our product candidates or products and could have an adverse effect on our business, prospects, financial condition and results of operations.

Any therapies that we may develop may compete with other product candidates and products for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing cell-based products for us. Any performance failure on the part of our existing or future manufacturers could delay clinical development or marketing approval.

Each of these risks could delay our clinical trials, any approval of our product candidates by the FDA, or the commercialization of our product candidates, and could result in higher costs or deprive us of potential product revenue.

Any cell-based products that receive regulatory approval may be difficult and expensive to manufacture on a commercial scale.

Pluripotent stem cell and progenitor cell derived therapeutic cells have only been produced on a small scale and not in quantities and at levels of purity and viability that will be needed for wide scale commercialization. If we are successful in developing products that consist of cells or compounds derived from pluripotent stem cells or progenitor cells, we will need to develop processes and technology for the commercial production of those products. Pluripotent stem cell or progenitor cell based products are likely to be more expensive to manufacture on a commercial scale than most other drugs on the market today. The high cost of manufacturing a product will require that we charge our customers a high price for the product in order to cover our costs and earn a profit. If the price of our products is too high, hospitals and physicians may be reluctant to purchase our products and we may not be able to sell our products in sufficient volumes to recover our costs or to earn a profit.

If we fail to meet our obligations under license agreements, we may lose our rights to key technologies on which our business depends.

Our business will depend on several critical technologies that we have licensed or sublicensed from BioTime or certain BioTime subsidiaries. The license and sublicense agreements impose obligations on us, including payment obligations and obligations to pursue development and commercialization of products and technologies under the licensed patents or technology. If the licensor or sublicensor believes that we have failed to meet our obligations under a license or sublicense agreement, they could seek to limit or terminate our license rights, which could lead to costly and time-consuming litigation and, potentially, our loss of the licensed rights. In addition, certain of our licensing counterparties may terminate without cause, including Yeda Research in connection with the relational databases that we in-license from Yeda for LifeMap Sciences. During the period of any such litigation our ability to carry out the development and commercialization of potential new products or technologies, and our ability to raise any capital that we might then need, could be significantly and negatively affected. If our license rights were restricted or ultimately lost, we would not be able to continue to use the licensed or sublicensed technology in our business.

Our future success depends on our ability to retain our key personnel and to attract, retain and motivate qualified personnel.

Our industry has experienced a high rate of turnover of management personnel in recent years. We are highly dependent on the development, regulatory, commercialization and business development expertise of Michael West, Ph.D., our Chief Executive Officer, as well as the other principal members of our management, scientific and clinical teams. Although we have employment agreements with our executive officers, these agreements do not prevent them from terminating their employment with us at any time. In addition, because we will rely on BioTime and Juvenescence Limited ("Juvenescence") to provide the services of certain administrative and management personnel, we will not have the benefit of the full time and effort of those BioTime and Juvenescence employees in the management and development of our business.

If we lose one or more of our executive officers or key employees, our ability to implement our business strategy successfully could be seriously harmed. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to develop, gain regulatory approval of and commercialize product candidates successfully. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these additional key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be engaged by entities other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. If we are unable to continue to attract and retain high quality personnel, our ability to develop and commercialize product candidates will be limited.

Our business and operations could suffer in the event of system failures.

Despite the implementation of security measures, our internal computer systems and those of our contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters including earthquakes and tsunamis, terrorism, war, and telecommunication and electrical failures. Some of our data related to the development of our product candidates resides on BioTime's computer servers and will be subject to the same risks described above. Further, while we are working to transfer our data from BioTime's servers to our own servers, there is a risk that data could be lost or corrupted while in the process of being transferred, or could otherwise not be transferred to us. A loss of or damage to our data, a disruption in access to our data, or inappropriate disclosure of confidential or proprietary information, could disrupt our operations, delay or otherwise adversely affect the development of our product candidates, significantly increase our costs, or result in delays in any future regulatory filings we may make .

In addition, our product candidates are manufactured by starting with cells that are stored in a cryopreserved master cell bank. While we believe we have adequate backup should any cell bank be lost in a catastrophic event, it is possible that we or our third-party suppliers and manufacturers could lose multiple cell banks and have our manufacturing severely impacted by the need to replace the cell banks. See "—We will face risks related to the manufacture of medical products for any product candidates that we develop." We cannot assure you that any stability or other issues relating to the manufacture of any of our product candidates or products will not occur in the future. Any delay or interruption in the supply of clinical trial supplies could delay the completion of planned clinical trials, increase the costs associated with maintaining clinical trial programs and, depending upon the period of delay, require us to commence new clinical trials at additional expense or terminate clinical trials completely. Any adverse developments affecting clinical or commercial manufacturing of our product candidates or products may result in shipment delays, inventory shortages, lot failures, product withdrawals or recalls or other interruptions in the supply of our product candidates or products. Accordingly, failures or difficulties faced at any level of our supply chain could adversely affect our business and delay or impede the development and commercialization of any of our product candidates or products and could have an adverse effect on our business, prospects, financial condition and results of operations.

Security breaches and other disruptions could compromise our information and expose us to liability, and could cause our business and reputation to suffer .

In the ordinary course of business, we collect and store sensitive data, including intellectual property, our proprietary business information and that of the licensors and licensees of the patents and other intellectual property we use, and personally identifiable information of employees and consultants. The secure processing, maintenance, and transmission of this information is critical to our operations and business strategy. Despite our security measures, our information technology and infrastructure may be vulnerable to attacks by hackers or breached due to employee error, malfeasance, or other disruptions. Any such breach could compromise our networks and the information stored there could be accessed, publicly disclosed, lost, or stolen. Any such access, disclosure, theft, or other loss of information could result in legal claims or proceedings or liability under laws that protect the privacy of personal information, and could disrupt our operations and damage our reputation. Even if we do not incur an interruption of or our operations, fines, penalties, or financial liability to third parties from a security breach, we could suffer a loss of confidence in our services, which could adversely affect our business and competitive position.

We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and managerial resources, we focus on research programs and product candidates that we identify for specific indications. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to timely capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable products. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate.

Failure of our internal control over financial reporting could harm our business and financial results.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting for external purposes in accordance with accounting principles generally accepted in the U.S. Internal control over financial reporting includes maintaining records that in reasonable detail accurately and fairly reflect our transactions; providing reasonable assurance that transactions are recorded as necessary for preparation of our financial statements; providing reasonable assurance that receipts and expenditures of our assets are made in accordance with management authorization; and providing reasonable assurance that unauthorized acquisition, use, or disposition of our assets that could have a material effect on the financial statements would be prevented or detected on a timely basis. Because of its inherent limitations, internal control over financial reporting is not intended to provide absolute assurance that a misstatement of our financial statements would be prevented or detected. Because we are an emerging growth company and a smaller reporting issuer, we are exempt from the requirement of having our internal controls over financial reporting audited by our independent registered public accountants, which means that material weaknesses or significant deficiencies in our internal controls that might be detected by an audit may not be detected and remedied. If we are successful in developing new medical products and technologies, the commercialization of those products and technologies will place significant additional pressure on our system of internal control over financial reporting. Any failure to maintain an effective system of internal control over financial reporting could limit our ability to report our financial results accurately and timely or to detect and prevent fraud. See "—Risks Pertaining to Our Common Stock—Our accounting and other management systems and resources may not be adequately prepared to meet the financial reporting and other requirements to which we will be subject, and failure to achieve and maintain effective internal controls could have a material adverse effect on our business and the price of our common stock."

We will initially rely in part on financial systems maintained by BioTime and upon services provided by BioTime personnel. BioTime will allocate certain expenses among itself, us, and BioTime's other subsidiaries and affiliates, which creates a risk that the allocations may not accurately reflect the benefit of an expenditure or use of financial or other resources by us, BioTime, and the BioTime subsidiaries and affiliates among which the allocations are made.

Recent changes in U.S. federal income tax law may have an adverse effect on our cash flows, results of operations or financial condition.

On December 22, 2017, the United States enacted major federal tax reform legislation, Public Law No. 115-97, commonly referred to as the 2017 Tax Cuts and Jobs Act ("2017 Tax Act"), which enacted a broad range of changes to the Internal Revenue Code. Changes to taxes on corporations impacted by the 2017 Tax Act include, but not limited to, changing the U.S. federal tax rate on corporations to a 21 percent flat tax rate, eliminating the corporate alternative minimum tax ("AMT"), imposing additional limitations on the deductibility of interest and net operating losses, allowing any net operating loss ("NOLs") generated in tax years ending after December 31, 2017 to be carried forward indefinitely and generally repealing NOL carrybacks, reducing the maximum deduction for NOL carryforwards arising in tax years beginning after 2017 to a percentage of the taxpayer's taxable income, and allowing for additional expensing of certain capital expenditures. The 2017 Tax Act also puts into effect a number of changes impacting operations outside of the United States including, but not limited to, the imposition of a one-time tax "deemed repatriation" on accumulated offshore earnings not previously subject to U.S. tax, and shifts the U.S taxation of multinational corporations from a worldwide system of taxation to a territorial system. Notwithstanding the reduction in the corporate income tax rate, the overall impact of the new federal tax law is uncertain and our business and financial condition could be adversely affected. In addition, it is uncertain if and to what extent various states will conform to the newly enacted federal tax law.

Risks Related to Our Industry

We face significant competition in an environment of rapid technological change and the possibility that our competitors may achieve regulatory approval before us or develop therapies that are more advanced or effective than ours, which may harm our business and financial condition, and our ability to successfully market or commercialize our product candidates.

The biotechnology and pharmaceutical industries are characterized by rapidly changing technologies, competition and a strong emphasis on intellectual property. We may face competition from other companies focused on therapeutics for age-related disease, which is a highly competitive environment. There are numerous biotechnology companies developing therapeutics for human aging, with each company often focusing on a specific molecular pathway within cells. For example, ResTORbio, Inc. is developing modulators of the mechanistic target of rapamycin (mTOR) pathway to treat immunological and cardiovascular disorders. Calico Life Sciences LLC is a Google-founded research and development company aimed at identifying molecular pathways that control animal lifespan and translating these insights into novel therapeutics designed to increase human healthspan. Unity Biotechnology, Inc. focuses on cellular senescence, in particular, the use of agents that can target senescent cells for selective ablation (senolysis). Unity's stated targeted age-related diseases include osteoarthritis as well as other ophthalmological and pulmonary diseases. Our therapeutic products in development are likely to face competition from a large number of companies and technological strategies including therapeutics intended to address our lead indications. See "Business – Competition."

We may also face competition from large and specialty pharmaceutical and biotechnology companies, academic research institutions, government agencies and public and private research institutions. Many of our current or potential competitors, either alone or with their collaboration partners, have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals, and marketing approved products than we do. Mergers and acquisitions in the pharmaceutical, biotechnology, and gene therapy industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. 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 or that would render any products that we may develop obsolete or non-competitive. 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 particular, the Ministry of Labor Health and Welfare in Japan may grant SAKIGAKE designation to a competing product candidate, which is designed to provide for faster review and approval for any such product candidate as compared to the conventional process. If any competing product candidate receives SAKIGAKE designation in Japan, it may be commercialized more quickly in Japan than any of our product candidates. Additionally, technologies developed by our competitors may render our potential product candidates uneconomic or obsolete, and we may not be successful in marketing any product candidates we may develop against competitors.

Any product candidates for which we intend to seek approval as biologic products may face competition sooner than anticipated.

The Patient Protection and Affordable Care Act, signed into law on March 23, 2010 ("ACA"), includes a subtitle called the Biologics Price Competition and Innovation Act of 2009, or BPCIA, which created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product. Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing the sponsor's own pre-clinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of their product. The law is complex and is still being interpreted and implemented by the FDA. As a result, its ultimate impact, implementation, and meaning are subject to uncertainty. While it is uncertain when such processes intended to implement BPCIA may be fully adopted by the FDA, any such processes could have a material adverse effect on the future commercial prospects for our biological products.

There is a risk that any of our product candidates approved as a biological product under a BLA would not qualify for the 12-year period of exclusivity or that this exclusivity could be shortened due to congressional action or otherwise, or that the FDA will not consider our product candidates to be reference products for competing products, potentially creating the opportunity for generic competition sooner than anticipated. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing.

The regulatory approval processes of the FDA and comparable foreign authorities are lengthy, time consuming and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for our product candidates, our business will be substantially harmed.

The time required to obtain approval by the FDA and comparable foreign authorities is unpredictable but typically takes many years following the commencement of clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. In addition, approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. We have not obtained regulatory approval for any product candidate and it is possible that any other product candidates we may seek to develop in the future will ever obtain regulatory approval. Neither we nor any future collaborator is permitted to market any of our product candidates in the United States until we receive regulatory approval of a biologic license application, or BLA, from the FDA. It is possible that the FDA may refuse to accept for substantive review any BLAs that we submit for our product candidates or may conclude after review of our data that our application is insufficient to obtain marketing approval of our product candidates.

Prior to obtaining approval to commercialize a product candidate in the United States or abroad, we or our collaborators must demonstrate with substantial evidence from well-controlled clinical trials, and to the satisfaction of the FDA or foreign regulatory agencies, that such product candidates are safe and effective for their intended uses. Results from nonclinical studies and clinical trials can be interpreted in different ways. Even if we believe the nonclinical or clinical data for our product candidates are promising, such data may not be sufficient to support approval by the FDA and other regulatory authorities. The FDA may also require us to conduct additional preclinical studies or clinical trials for our product candidates either prior to or post-approval, or it may object to elements of our clinical development program. Depending on the extent of these or any other FDA-required studies, approval of any BLA or application that we submit may be delayed by several years or may require us to expend significantly more resources than we have available.

Any therapeutic products that we and our subsidiaries may develop cannot be sold until the FDA and corresponding foreign regulatory authorities approve the products for medical use. The need to obtain regulatory approval to market a new product means that:

- We will have to conduct expensive and time-consuming clinical trials of new products. The full cost of conducting and completing clinical trials necessary to obtain FDA and foreign regulatory approval of a new product cannot be presently determined but could exceed our financial resources.

- Clinical trials and the regulatory approval process for a pharmaceutical or cell-based product can take several years to complete. As a result, we will incur the expense and delay inherent in seeking FDA and foreign regulatory approval of new products, even if the results of clinical trials are favorable.

- Data obtained from preclinical and clinical studies is susceptible to varying interpretations and regulatory changes that could delay, limit, or prevent regulatory agency approvals.

- Because the therapeutic products we plan to develop with pluripotent stem cell technology or progenitor cell technology involve the application of new technologies and approaches to medicine, the FDA or foreign regulatory agencies may subject those products to additional or more stringent review than drugs or biologicals derived from other technologies.

- A product that is approved may be subject to restrictions on use.

- The FDA can recall or withdraw approval of a product, if it deems necessary.

- We will face similar regulatory issues in foreign countries.

Approval of our product candidates may be delayed or refused for many reasons, including the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;

- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that our product candidates are safe and effective for any of their proposed indications;

- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;

- we may be unable to demonstrate that our product candidates' clinical and other benefits outweigh their safety risks;

- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical programs or clinical trials;

- the data collected from clinical trials of our product candidates may not be sufficient to support the submission of a BLA or other comparable submission in foreign jurisdictions or to obtain regulatory approval in the United States or elsewhere;

- the facilities of the third-party manufacturers with which we contract may not be adequate to support approval of our product candidates (for example, regulatory approval of cell- and tissue-based products require high standards of quality control); and

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

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

Ethical, social and legal concerns about research regarding stem cells, could result in regulations restricting or prohibiting the processes we may use. Federal and state agencies, congressional committees and foreign governments have expressed interest in further regulating biotechnology. More restrictive regulations or claims that our products are unsafe or pose a hazard could prevent us from commercializing any products. New government requirements may be established that could delay or prevent regulatory approval of our product candidates under development. It is impossible to predict whether legislative changes will be enacted, regulations, policies or guidance changed, or interpretations by agencies or courts changed, or what the impact of such changes, if any, may be.

Regulatory requirements governing gene and cell therapy products have changed frequently and may continue to change in the future. The FDA has established the Office of Tissues and Advanced Therapies within its Center for Biologics Evaluation and Research, or CBER, to consolidate the review of gene therapy and related products, and has established the Cellular, Tissue and Gene Therapies Advisory Committee to advise the CBER in its review. Gene therapy clinical trials conducted at institutions that receive funding for recombinant DNA research from the NIH, also are potentially subject to review by the NIH Office of Science Policy's Recombinant DNA Advisory Committee, or the RAC, in limited circumstances. Although the FDA decides whether individual gene therapy protocols may proceed, the RAC public review process, if undertaken, can delay the initiation of a clinical trial, even if the FDA has reviewed the trial design and details and authorized its initiation. Conversely, the FDA can put an investigational new drug application, or IND, on clinical hold even if the RAC has provided a favorable review or an exemption from in-depth, public review. If we were to engage an NIH-funded institution, to conduct a clinical trial, that institution's institutional biosafety committee, or IBC, as well as its institutional review board, or IRB, would need to review the proposed clinical trial to assess the safety of the trial and may determine that RAC review is needed. In addition, adverse developments in clinical trials of gene therapy products conducted by others may cause the FDA or other oversight bodies to change the requirements for approval of any of our product candidates. Similarly, foreign regulatory authorities may issue new guidelines concerning the development and marketing authorization for gene therapy medicinal products and require that we comply with these new guidelines.

Some of our future products may be viewed by the FDA as combination products and the review of combination products is often more complex and more time consuming than the review of other types of products.

Our future products may be regulated by the FDA as combination products. For a combination product, the FDA must determine which center or centers within the FDA will review the product candidate and under what legal authority the product candidate will be reviewed. The process of obtaining FDA marketing clearance or approval is lengthy, expensive, and uncertain, and we cannot be sure that any of our combination products, or any other products, will be cleared or approved in a timely fashion, or at all. In addition, the review of combination products is often more complex and more time consuming than the review of a product candidate under the jurisdiction of only one center within the FDA. We cannot be sure that the FDA will not select to have our combination products reviewed and regulated by only one FDA center and/or different legal authority, in which case the path to regulatory approval would be different and could be more lengthy and costly. If the FDA does not approve or clear our products in a timely fashion, or at all, our business and financial condition will be adversely affected.

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

The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the study until its conclusion. We may encounter delays in enrolling, or be unable to enroll, a sufficient number of patients to complete any of our clinical trials, and even once enrolled we may be unable to retain a sufficient number of patients to complete any of our trials. The enrollment of patients depends on many factors, including:

- the patient eligibility criteria defined in the protocol;
- the size of the patient population required for analysis of the trial's primary endpoints;
- the proximity of patients to study sites;
- the design of the trial;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new products that may be approved for the indications we are investigating;
- our ability to obtain and maintain patient consents; and
- the risk that patients enrolled in clinical trials will drop out of the trials before completion.

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

Delays or failures in planned patient enrollment or retention may result in increased costs, program delays or both, which could have a harmful effect on our ability to develop our product candidates or could render further development impossible.

Even if we obtain FDA approval for any of our product candidates in the United States, we may never obtain approval for or commercialize it in any other jurisdiction, which would limit our ability to realize its full market potential.

In order to market any products in any particular jurisdiction, we must establish and comply with numerous and varying regulatory requirements on a country-by-country basis regarding safety and efficacy. Approval by the FDA in the United States does not ensure approval by regulatory authorities in other countries or jurisdictions. However, the failure to obtain approval in one jurisdiction may negatively impact our ability to obtain approval elsewhere. In addition, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not guarantee regulatory approval in any other country.

Approval processes vary among countries and can involve additional product testing and validation and additional administrative review periods. Seeking foreign regulatory approval could result in difficulties and increased costs for us and require additional preclinical studies or clinical trials which could be costly and time consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of our products in those countries. We do not have any product candidates approved for sale in any jurisdiction, including in international markets, and we do not have experience in obtaining regulatory approval in international markets. If we fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, or if regulatory approvals in international markets are delayed, our target market will be reduced and our ability to realize the full market potential of any product we develop will be unrealized.

Clinical studies are costly, time consuming and inherently risky, and we may fail to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities

Clinical development is expensive, time consuming and involves significant risk. We cannot guarantee that any clinical studies will be conducted as planned or completed on schedule, if at all. A failure of one or more clinical studies can occur at any stage of development. Events that may prevent successful or timely completion of clinical development include but are not limited to:

- inability to generate satisfactory preclinical, toxicology, or other *in vivo* or *in vitro* data to support the initiation or continuation of clinical studies necessary for product approval;
- delays in reaching agreement on acceptable terms with clinical research organizations or CROs and clinical study sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical study sites;
- delays in obtaining required Institutional Review Board, or IRB, approval at each clinical study site;
- failure to permit the conduct of a study by regulatory authorities, after review of an investigational new drug, or IND, or equivalent foreign application or amendment;
- delays in recruiting qualified patients in our clinical studies;
- failure by clinical sites or our CROs or other third parties to adhere to clinical study requirements or report complete findings;
- failure to perform the clinical studies in accordance with the FDA's good clinical practices requirements, or applicable foreign regulatory guidelines;
- patients dropping out of our clinical studies;
- occurrence of adverse events associated with our product candidates;
- inability to use clinical trial results from foreign jurisdictions in support of U.S. regulatory approval;
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols;
- the cost of clinical studies of our product candidates;
- negative or inconclusive results from our clinical trials which may result in our deciding, or regulators requiring us, to conduct additional clinical studies or abandon development programs for a product candidate; and
- delays in reaching agreement on acceptable terms with third-party manufacturers, or delays in the manufacture of sufficient quantities of our product candidates for use in clinical studies.

Any inability to successfully complete clinical development and obtain regulatory approval could result in additional costs to us or impair our ability to generate revenue. Clinical study delays could also shorten any periods during which our products have patent protection and may allow competitors to develop and bring products to market before we do and may harm our business and results of operations.

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

Any product candidate for which we obtain marketing approval, along with the manufacturing processes, post-approval clinical data, labeling, packaging, distribution, adverse event reporting, storage, recordkeeping, export, import, advertising and promotional activities for such product, among other things, will be subject to extensive and ongoing requirements of and review by the FDA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, establishment registration and drug listing requirements, continued compliance with cGMP requirements relating to manufacturing, quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians and recordkeeping and Good Clinical Practice, or GCP, requirements for any clinical trials that we conduct post-approval.

The FDA closely regulates the post-approval marketing and promotion of genetic medicines to ensure they are marketed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA imposes stringent restrictions on manufacturers' communications regarding off-label use and if we market our products for uses beyond their approved indications, we may be subject to enforcement action for off-label marketing. Violations of the U.S. federal Food, Drug, and Cosmetic Act, or FDCA, relating to the promotion of prescription drugs may lead to FDA enforcement actions and investigations alleging violations of federal and state health care fraud and abuse laws, as well as state consumer protection laws.

In addition, later discovery of previously unknown adverse events or other problems with our products, manufacturers or manufacturing processes, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may yield various results, including:

- restrictions on manufacturing such products;
- restrictions on the labeling or marketing of a product;
- restrictions on product distribution or use;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters or holds on clinical trials;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;
- fines, restitution or disgorgement of profits or revenues;
- suspension or withdrawal of marketing approvals;
- refusal to permit the import or export of our products;
- product seizure or detention; or
- injunctions or the imposition of civil or criminal penalties.

The FDA's policies may change, and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of any of our product candidates. For example, in December 2016, the 21st Century Cures Act, or Cures Act, was signed into law. The Cures Act, among other things, is intended to modernize the regulation of drugs and biologics and spur innovation, but its ultimate implementation is unclear. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained which would adversely affect our business, prospects and ability to achieve or sustain profitability.

We also cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. For example, certain policies of the Trump administration may impact our business and industry. Namely, the Trump administration has taken several executive actions, including the issuance of a number of Executive Orders, that could impose significant burdens on, or otherwise materially delay, FDA's ability to engage in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. Notably, on January 30, 2017, President Trump issued an Executive Order, applicable to all executive agencies, including the FDA, that requires that for each notice of proposed rulemaking or final regulation to be issued in fiscal year 2017, the agency shall identify at least two existing regulations to be repealed, unless prohibited by law. These requirements are referred to as the "two-for-one" provisions. This Executive Order includes a budget neutrality provision that requires the total incremental cost of all new regulations in the 2017 fiscal year, including repealed regulations, to be no greater than zero, except in limited circumstances. For fiscal years 2018 and beyond, the Executive Order requires agencies to identify regulations to offset any incremental cost of a new regulation and approximate the total costs or savings associated with each new regulation or repealed regulation. In interim guidance issued by the Office of Information and Regulatory Affairs within the Office of Management and Budget on February 2, 2017, the Trump administration indicates that the "two-for-one" provisions may apply not only to agency regulations, but also to significant agency guidance documents. Further, on February 24, 2017, President Trump issued an Executive Order requiring each agency to designate a regulatory reform officer and create a regulatory reform task force to evaluate existing regulations and make recommendations regarding their repeal, replacement or modification. It is difficult to predict how these requirements will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. If these executive actions impose constraints on FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

Our product candidates may cause serious adverse events or undesirable side effects or have other properties which may delay or prevent their regulatory approval, limit the commercial profile of an approved label, or, result in significant negative consequences following marketing approval, if any.

Serious adverse events or undesirable side effects caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other comparable foreign authorities. Results of our clinical trials could reveal a high and unacceptable severity and prevalence of side effects, toxicities or unexpected characteristics, including death.

For example, there have been significant adverse side effects in cell therapy treatments in the past, including reported cases of certain cancers. In addition to side effects that may be caused by our product candidates, the conditioning, administration process or related procedures also can cause adverse side effects, including compromise of a patient's immune system. If unacceptable side effects arise in the development of our product candidates, we, the FDA, the IRBs at the institutions in which our studies are conducted or Data Safety Monitoring Board, or DSMB, could suspend or terminate our clinical trials or the FDA or comparable foreign regulatory authorities could order us to cease clinical trials or deny approval of our product candidates for any or all targeted indications. Treatment-related side effects could also affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff. We expect to have to train medical personnel using our product candidates to understand the side effect profiles for our clinical trials and upon any commercialization of any of our product candidates. Inadequate training in recognizing or managing the potential side effects of our product candidates could result in patient injury or death. Any of these occurrences may harm our business, financial condition and prospects significantly.

If any of our product candidates receives marketing approval, and we or others later identify undesirable side effects caused by any such product, including during any long-term follow-up observation period recommended or required for patients who receive treatment using our products, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw approvals of such product;
- we may be required to recall a product or change the way such product is administered to patients;
- additional restrictions may be imposed on the marketing of the particular product or the manufacturing processes for the product;

- regulatory authorities may require additional warnings on the label, such as a "black box" warning or contraindication;
- we may be required to implement a Risk Evaluation and Mitigation Strategy, or REMS, or create a medication guide outlining the risks of such side effects for distribution to patients;
- the product could become less competitive;
- 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.

We face potential product liability, and, if successful claims are brought against us, we may incur substantial liability and costs. If the use or misuse of our product candidates harm patients or is perceived to harm patients even when such harm is unrelated to our product candidates, our regulatory approvals could be revoked or could otherwise be negatively impacted, and we could be subject to costly and damaging product liability claims.

The use or misuse of any product candidates in clinical trials and the sale of any products for which we obtain marketing approval exposes us to the risk of product liability claims. Product liability claims might be brought against us by consumers, healthcare providers, pharmaceutical companies, or others selling or otherwise coming into contact with our products. There is a risk that our product candidates may induce adverse events. If we cannot successfully defend against product liability claims, we could incur substantial liability and costs. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- impairment of our business reputation;
- initiation of investigations by regulators;
- withdrawal of clinical trial participants;
- costs due to related litigation;
- distraction of management's attention from our primary business;
- substantial monetary awards to patients or other claimants;
- the inability to commercialize our product candidates;
- product recalls, withdrawals or labeling, and marketing or promotional restrictions;
- loss of revenue; and
- decreased demand for our product candidates, if approved for commercial sale.

We may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. If and when we commence clinical trials or obtain marketing approval for any product candidates, we intend to increase our insurance coverage to include clinical use or the sale of commercial products, as applicable; however, we may be unable to obtain product liability insurance on commercially reasonable terms or in adequate amounts. On occasion, large judgments have been awarded in class action lawsuits based on drugs or medical treatments that had unanticipated adverse effects. A successful product liability claim or series of claims brought against us could cause our stock price to decline and, if judgments exceed our insurance coverage, could adversely affect our results of operations and business.

Our insurance policies are expensive and protect us only from some business risks, which leaves us exposed to significant uninsured liabilities.

We do not carry insurance for all categories of risk that our business may encounter. Some of the policies we currently maintain include general liability, employment practices liability, property, auto, workers' compensation, umbrella, and directors' and officers' insurance.

Any additional product liability insurance coverage we acquire in the future, may not be sufficient to reimburse us for any expenses or losses we may suffer. Moreover, insurance coverage is becoming increasingly expensive and, 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 due to liability. If we obtain marketing approval for any of our product candidates, we intend to acquire insurance coverage to include the sale of commercial products; however, we may be unable to obtain product liability insurance on commercially reasonable terms or in adequate amounts. A successful product liability claim or series of claims brought against us could cause our share price to decline and, if judgments exceed our insurance coverage, could adversely affect our results of operations and business, including preventing or limiting the commercialization of any product candidates we develop.

As a public company, it can be difficult and expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. As a result, it may be more difficult for us to attract and retain qualified people to serve on our Board of Directors, our board committees or as executive officers. We do not know, however, if we will be able to maintain existing insurance with adequate levels of coverage. Any significant uninsured liability may require us to pay substantial amounts, which would adversely affect our cash position and results of operations.

Our employees and independent contractors, including principal investigators, CROs, consultants, vendors, and any third parties we may engage in connection with development and commercialization may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have a material adverse effect on our business.

Misconduct by our employees and independent contractors, including principal investigators, contract research organizations, or CROs, consultants, vendors, and any third parties we may engage in connection with development and commercialization, could include intentional, reckless or negligent conduct or unauthorized activities that violate: (i) the laws and regulations of the FDA, EMA rules and regulations and other similar regulatory requirements, including those laws that require the reporting of true, complete and accurate information to such authorities; (ii) manufacturing standards; (iii) data privacy, security, fraud and abuse and other healthcare laws and regulations; or (iv) laws that require the reporting of true, complete and accurate financial information and data. Specifically, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Activities subject to these laws could also involve the improper use or misrepresentation of information obtained in the course of clinical trials, creation of fraudulent data in pre-clinical studies or clinical trials or illegal misappropriation of drug product, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with such laws or regulations. Additionally, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. 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 and results of operations, including the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, disgorgements, possible exclusion from participation in Medicare, Medicaid, other U.S. federal healthcare programs or healthcare programs in other jurisdictions, individual imprisonment, other sanctions, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations.

Government-imposed bans or restrictions and religious, moral, and ethical concerns about the use of human embryonic stem cells could prevent us from developing and successfully marketing stem cell products.

Government-imposed bans or restrictions on the use of embryos or human embryonic stem cells ("hES cells"), in research and development in the United States and abroad could generally constrain stem cell research, thereby limiting the market and demand for our products.

California law requires that stem cell research be conducted under the oversight of a SCRO Committee. Many kinds of stem cell research, including the derivation of new hES cell lines, may only be conducted in California with the prior written approval of the SCRO Committee. A SCRO Committee could prohibit or impose restrictions on the research that we plan to do. An adverse decision by a SCRO Committee, or their imposition of restrictions on a research program could adversely affect our ability to enter into co-development or licensing arrangements for the development of a product candidate.

The use of hES cells may give rise to religious, moral, and ethical issues. These considerations could lead to more restrictive government regulations or could generally constrain stem cell research, thereby limiting the market and demand for our products.

Adverse publicity regarding cell-based therapies could impact our business.

Adverse publicity due to the ethical and social controversies surrounding the use of embryonic stem cells or any adverse reported side effects from any stem cell or other cell therapy clinical trials or to the failure of such trials to demonstrate that these therapies are efficacious could materially and adversely affect our ability to raise capital, conduct and complete clinical trials and achieve market acceptance of such products, if approved. For example, research institutions, including those who may be our collaborators, may from time to time publish findings or studies regarding the human genome (such as the Human Genome Project) that adversely implicate our product candidates, including findings of cancer dependencies in cell lines used in our cell-based therapies.

The price and sale of any products that we may develop may be limited by health insurance coverage and government regulation.

Success in selling our pharmaceutical and cell-based products and medical devices may depend in part on the extent to which health insurance companies, HMOs, and government health administration authorities such as Medicare and Medicaid will pay for the cost of the products and related treatment. Until we introduce a new product into the medical marketplace, we will not know with certainty whether adequate health insurance, HMO, and government coverage will be available to permit the product to be sold at a price high enough for us to generate a profit. In some foreign countries, pricing or profitability of health care products is subject to government control, which may result in low prices for our products. In the United States, there have been a number of federal and state proposals to implement similar government controls, and new proposals are likely to be made in the future. We cannot be sure that coverage and reimbursement in the United States, the EU or elsewhere will be available for our product candidates or any product that we may develop, and any reimbursement that may become available may be decreased or eliminated in the future.

Third-party payors increasingly are challenging prices charged for pharmaceutical products and services, and many third-party payors may refuse to provide coverage and reimbursement for particular drugs or biologics when an equivalent generic drug, biosimilar or a less expensive therapy is available. It is possible that a third-party payor may consider our product candidates as substitutable and only offer to reimburse patients for the less expensive product. Even if we show improved efficacy or improved convenience of administration with our product candidates, pricing of existing third-party therapeutics may limit the amount we will be able to charge for our product candidates. These payors may deny or revoke the reimbursement status of a given product or establish prices for new or existing marketed products at levels that are too low to enable us to realize an appropriate return on our investment in our product candidates. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize our product candidates and may not be able to obtain a satisfactory financial return on our product candidates.

There is significant uncertainty related to the insurance coverage and reimbursement of newly-approved products. In the United States, third-party payors, including private and governmental payors, such as the Medicare and Medicaid programs, play an important role in determining the extent to which new drugs and biologics will be covered. The Medicare and Medicaid programs increasingly are used as models in the United States for how private payors and other governmental payors develop their coverage and reimbursement policies for drugs and biologics. Some third-party payors may require pre-approval of coverage for new or innovative devices or drug therapies before they will reimburse healthcare providers who use such therapies. We cannot predict at this time what third-party payors will decide with respect to the coverage and reimbursement for our product candidates.

No uniform policy for coverage and reimbursement for products exists among third-party payors in the United States. 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 product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. Furthermore, rules and regulations regarding reimbursement change frequently, in some cases on short notice, and we believe that changes in these rules and regulations are likely.

Outside the United States, international operations are generally subject to extensive governmental price controls and other market regulations, and we believe the increasing emphasis on cost-containment initiatives in Europe and other countries have and will continue to put pressure on the pricing and usage of our product candidates. In many countries, the prices of medical products are subject to varying price control mechanisms as part of national health systems. Other countries allow companies to fix their own prices for medical products but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our product candidates. Accordingly, in markets outside the United States, the reimbursement for our product candidates may be reduced compared with the United States and may be insufficient to generate commercially-reasonable revenue and profits.

Moreover, increasing efforts by governmental and third-party payors in the United States and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for newly approved products and, as a result, they may not cover or provide adequate payment for our product candidates. While it is not possible to predict or model the insurance landscape at the time any of our product candidates may receive regulatory approval, we expect to experience pricing pressures in connection with the sale of our product candidates due to the trend toward managed health care, the increasing influence of health maintenance organizations and additional legislative changes. The downward pressure on healthcare costs in general, particularly prescription drugs and biologics and surgical procedures and other treatments, has become intense. As a result, increasingly high barriers are being erected to the entry of new products.

Enacted and future healthcare legislation, including the ACA, may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and may affect the prices we may set.

In the United States, the EU and other jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes and proposed changes to the healthcare system that could affect our future results of operations. As a result of the adoption of the ACA in the United States, substantial changes have been made to the system for paying for healthcare in the United States. Certain provisions related to cost-savings and reimbursement measures could adversely affect our future financial performance. For example, among the provisions of the ACA, those of greatest importance to the biopharmaceutical industry includes the following:

- an annual, non-deductible fee payable by any entity that manufactures or imports certain branded prescription drugs and biologic agents (other than those designated as orphan drugs), which is apportioned among these entities according to their market share in certain government healthcare programs;

- new requirements to report certain financial arrangements with physicians and teaching hospitals, including reporting "transfers of value" made or distributed to prescribers and other healthcare providers and reporting investment interests held by physicians and their immediate family members;

- 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;

- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to certain individuals with income at or below 133% of the federal poverty level, thereby potentially increasing a manufacturer's Medicaid rebate liability;

- a licensure framework for follow on biologic products;

- 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

- establishment of a Center for Medicare Innovation at the Centers for Medicare & Medicaid Services, or CMS, to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

Since its enactment, some of the provisions of the ACA have yet to be fully implemented, while certain provisions have been subject to judicial, congressional, and executive challenges. As a result, there have been delays in the implementation of, and action taken to repeal or replace, certain aspects of the ACA. The U.S. Supreme Court has upheld certain key aspects of the legislation, including a tax-based shared responsibility payment imposed on certain individuals who fail to maintain qualifying health coverage for all or part of a year, which is commonly known as the requirement that all individuals maintain health insurance coverage or pay a penalty, referred to as the "individual mandate." However, as a result of tax reform legislation passed in December 2017, the individual mandate has been eliminated effective January 1, 2019. According to the Congressional Budget Office, the repeal of the individual mandate will cause 13 million fewer Americans to be insured in 2027 and premiums in insurance markets may rise.

Since January 2017, President Trump has signed two Executive Orders designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. One Executive Order directs federal agencies with authorities and responsibilities under the ACA to waive, defer, grant exemptions from, or delay the implementation of any provision of the ACA that would impose a fiscal or regulatory burden on states, individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. The Order requires that for each notice of proposed rulemaking or final regulation to be issued in fiscal year 2017, the applicable agency shall identify at least two existing regulations to be repealed, unless prohibited by law. These requirements are referred to as the "two-for-one" provisions. This Executive Order includes a budget neutrality provision that requires the total incremental cost of all new regulations in the 2017 fiscal year, including repealed regulations, to be no greater than zero, except in limited circumstances. For fiscal years 2018 and beyond, the Executive Order requires agencies to identify regulations to offset any incremental cost of a new regulation and approximate the total costs or savings associated with each new regulation or repealed regulation. In interim guidance issued by the Office of Information and Regulatory Affairs within the Office of Management and Budget on February 2, 2017, the Trump administration indicates that the "two-for-one" provisions may apply not only to agency regulations, but also to significant agency guidance documents.

The second Executive Order terminates the cost-sharing subsidies that reimburse insurers under the ACA. Several state Attorneys General filed suit to stop the administration from terminating the subsidies, but their request for a restraining order was denied by a federal judge in California on October 25, 2017. The loss of the cost share reduction payments is expected to increase premiums on certain policies issued by qualified health plans under the ACA. In addition, the Centers for Medicare & Medicaid Services, or CMS, has recently proposed regulations that would give states greater flexibility in setting benchmarks for insurers in the individual and small group marketplaces, which may have the effect of relaxing the essential health benefits required under the ACA for plans sold through such marketplaces. Litigation and legislation over the ACA are likely to continue, with unpredictable and uncertain results. We continue to evaluate the effect that the ACA and its possible repeal and replacement has on our business.

Further, on February 24, 2017, President Trump issued an Executive Order requiring each agency to designate a regulatory reform officer and create a regulatory reform task force to evaluate existing regulations and make recommendations regarding their repeal, replacement or modification. It is difficult to predict how these requirements will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority.

In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers of 2% per fiscal year. These reductions went into effect in April 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2025 unless additional action is taken by Congress. In January 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws or any other similar laws introduced in the future may result in additional reductions in Medicare and other health care funding, which could negatively affect our customers and accordingly, our financial operations.

The costs of prescription pharmaceuticals in the United States has also been the subject of considerable debate, and members of Congress and the Trump Administration have indicated that each will address such costs through new legislative and administrative measures. To date, there have been several recent U.S. congressional inquiries and proposed state and federal legislation designed to, among other things, improve transparency in drug pricing, review the relationship between pricing and manufacturer patient programs, reduce the costs of drugs under Medicare, and reform government program reimbursement methodologies for drug products. The pricing of prescription pharmaceuticals is also subject to governmental control outside the United States. In these other 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 a clinical trial that compares the cost effectiveness of our product candidates to other available therapies. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our ability to generate revenues and become profitable could be impaired.

Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for approved products. In addition, there have been several recent Congressional inquiries and proposed bills designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, reduce the cost of drugs under Medicare and reform government program reimbursement methodologies for drugs. We cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by the U.S. Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent labeling and post-marketing testing and other requirements.

Moreover, payment methodologies may be subject to changes in healthcare legislation and regulatory initiatives. For example, CMS may develop new payment and delivery models, such as bundled payment models. In addition, recently there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products. We expect that additional U.S. federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that the U.S. federal government will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

Individual states in the United States have also become increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. Legally-mandated price controls on payment amounts by third-party payors or other restrictions could harm our business, results of operations, financial condition and prospects. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. This could reduce the ultimate demand for our product candidates or put pressure on our product pricing.

In the EU, similar political, economic and regulatory developments may affect our ability to profitably commercialize our product candidates, if approved. In addition to continuing pressure on prices and cost containment measures, legislative developments at the EU or member state level may result in significant additional requirements or obstacles that may increase our operating costs. The delivery of healthcare in the EU, including the establishment and operation of health services and the pricing and reimbursement of medicines, is almost exclusively a matter for national, rather than EU, law and policy. National governments and health service providers have different priorities and approaches to the delivery of health care and the pricing and reimbursement of products in that context. In general, however, the healthcare budgetary constraints in most EU member states have resulted in restrictions on the pricing and reimbursement of medicines by relevant health service providers. Coupled with ever-increasing EU and national regulatory burdens on those wishing to develop and market products, this could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to commercialize our product candidates, if approved.

In markets outside of the United States and EU, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies.

We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action in the United States, the EU or any other jurisdiction. If we or any third parties we may engage are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we or such third parties are not able to maintain regulatory compliance, our product candidates may lose any regulatory approval that may have been obtained and we may not achieve or sustain profitability.

If we fail to comply with the extensive legal and regulatory requirements affecting the health care industry, we could face increased costs, penalties and a loss of business.

Our activities, and the activities of any collaborators, distributors and other third-party providers that we may engage in the future, will be subject to extensive government regulation and oversight both in the U.S. and in foreign jurisdictions. The FDA and comparable agencies in other jurisdictions will directly regulate many of our most critical business activities, including the conduct of preclinical and clinical studies, product manufacturing, advertising and promotion, product distribution, adverse event reporting, and product risk management. Our interactions in the U.S. or abroad with physicians and other health care providers that prescribe or purchase our products will also be subject to government regulation designed to prevent fraud and abuse in the sale and use of the products and place greater restrictions on the marketing practices of health care companies. Health care companies such as ours are facing heightened scrutiny of their relationships with health care providers from anti-corruption enforcement officials. In addition, health care companies such as ours have been the target of lawsuits and investigations alleging violations of government regulation, including claims asserting submission of incorrect pricing information, impermissible off-label promotion of pharmaceutical products, payments intended to influence the referral of health care business, submission of false claims for government reimbursement, antitrust violations, and violations related to environmental matters. Risks relating to compliance with laws and regulations may be heightened if we operate globally.

Regulations governing the health care industry are subject to change, with possibly retroactive effect, including:

- new laws, regulations or judicial decisions, or new interpretations of existing laws, regulations or decisions, related to health care availability, pricing or marketing practices, compliance with wage and hour laws and other employment practices, method of delivery, payment for health care products and services, compliance with health information and data privacy and security laws and regulations, tracking and reporting payments and other transfers of value made to physicians and teaching hospitals, extensive anti-bribery and anti-corruption prohibitions, product serialization and labeling requirements and used product take-back requirements;

- changes in the FDA and foreign regulatory approval processes that may delay or prevent the approval of new products and result in lost market opportunity;

- requirements that provide for increased transparency of clinical trial results and quality data, such as the EMA's clinical transparency policy, which could impact our ability to protect trade secrets and competitively-sensitive information contained in approval applications or could be misinterpreted leading to reputational damage, misperception, or legal action which could harm our business; and

- changes in FDA and foreign regulations that may require additional safety monitoring, labeling changes, restrictions on product distribution or use, or other measures after the introduction of our products to market, which could increase our costs of doing business, adversely affect the future permitted uses of approved products, or otherwise adversely affect the market for our products.

Violations of governmental regulation may be punishable by criminal and civil sanctions against us, including fines and civil monetary penalties and exclusion from participation in government programs, including Medicare and Medicaid, as well as sanctions against executives overseeing our business. In addition to penalties for violation of laws and regulations, we could be required to repay amounts we received from government payors or pay additional rebates and interest if we are found to have miscalculated the pricing information we have submitted to the government. We cannot ensure that our compliance controls, policies and procedures will in every instance protect us from acts committed by our employees, collaborators, partners or third-party providers that would violate the laws or regulations of the jurisdictions in which we operate. Whether or not we have complied with the law, an investigation into alleged unlawful conduct could increase our expenses, damage our reputation, divert management time and attention, and adversely affect our business.

We may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws, and health information privacy and security laws, and if we are unable to comply with such laws, we could face substantial penalties.

If we obtain FDA approval for any of our product candidates or technologies and begin commercializing those products or technologies in the United States, our operations may be subject to various federal and state fraud and abuse laws, including, without limitation, the federal Anti-Kickback Statute, the federal False Claims Act, and physician sunshine laws and regulations. These laws may impact, among other things, our proposed sales, marketing, and education programs. In addition, we may be subject to patient privacy regulation by both the federal government and the states in which we conduct our business. The laws that may affect our ability to operate include:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, to induce, or in return for, the purchase or recommendation of an item or service reimbursable under a federal healthcare program, such as the Medicare and Medicaid programs;

- federal civil and criminal false claims laws and civil monetary penalty laws, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other third-party payors that are false or fraudulent;

- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created new federal criminal statutes that prohibit executing a scheme to defraud any healthcare benefit program and making false statements relating to healthcare matters;

- HIPAA, as amended by the Health Information Technology and Clinical Health Act, or HITECH, and implementing regulations, which impose certain requirements relating to the privacy, security, and transmission of individually identifiable health information;

- the Physician Payments Sunshine Act which requires manufacturers of drugs, devices, biologics, and medical supplies to report annually to the U.S. Department of Health and Human Services information related to payments and other transfers of value to physicians, other healthcare providers, and teaching hospitals, and ownership and investment interests held by physicians and other healthcare providers and their immediate family members and applicable group purchasing organizations;

- the FDCA, which prohibits, among other things, the adulteration or misbranding of drugs, biologics and medical devices;

- the U.S. Public Health Service Act, which prohibits, among other things, the introduction into interstate commerce of a biological product unless a biologics license is in effect for that product; and

- state law equivalents of each of the above federal laws, such as anti-kickback and false claims laws that may apply to items or services reimbursed by any third-party payors, including commercial insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, or that otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; and state laws governing the privacy and security of health information in certain circumstances.

Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws. In addition, recent health care reform legislation has strengthened these laws. Further, state laws differ from each other and from federal law in significant ways, thus complicating compliance efforts.

If our operations are found to be in violation of any of the laws described above or any other governmental regulations that apply, we may be subject to penalties, including civil and criminal penalties, damages, fines, exclusion from participation in government health care programs, such as Medicare and Medicaid, imprisonment, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Risks Related to our Dependence on Third Parties

We may become dependent on future collaborations to develop and commercialize our product candidates and to provide the regulatory compliance, sales, marketing, and distribution capabilities required for the success of our business.

We may enter into various kinds of collaborative research and development and product marketing agreements to develop and commercialize our products. The expected future milestone payments and cost reimbursements from collaboration agreements could provide an important source of financing for our research and development programs, thereby facilitating the application of our technology to the development and commercialization of our products, but there are risks associated with entering into collaboration arrangements.

The process of establishing and maintaining collaborative relationships is difficult, time-consuming and involves significant uncertainty, such as:

- a collaboration partner may shift its priorities and resources away from our product candidates due to a change in business strategies, or a merger, acquisition, sale or downsizing;
- a collaboration partner may seek to renegotiate or terminate their relationships with us due to unsatisfactory clinical results, manufacturing issues, a change in business strategy, a change of control or other reasons;
- a collaboration partner may cease development in therapeutic areas which are the subject of our strategic collaboration;
- a collaboration partner may not devote sufficient capital or resources towards our product candidates;
- a collaboration partner may change the success criteria for a product candidate thereby delaying or ceasing development of such candidate;
- a significant delay in initiation of certain development activities by a collaboration partner will also delay payment of milestones tied to such activities, thereby impacting our ability to fund our own activities;
- a collaboration partner could develop a product that competes, either directly or indirectly, with our product candidate;
- a collaboration partner with commercialization obligations may not commit sufficient financial or human resources to the marketing, distribution or sale of a product;
- a collaboration partner with manufacturing responsibilities may encounter regulatory, resource or quality issues and be unable to meet demand requirements;
- a collaboration partner may terminate a strategic alliance;
- a dispute may arise between us and a partner concerning the research, development or commercialization of a product candidate resulting in a delay in milestones, royalty payments or termination of an alliance and possibly resulting in costly litigation or arbitration which may divert management attention and resources; and
- a partner may use our products or technology in such a way as to invite litigation from a third party.

There is a risk that a collaboration partner might fail to perform its obligations under the collaborative arrangements or may be slow in performing its obligations. In addition, a collaboration partner may experience financial difficulties at any time that could prevent it from having available funds to contribute to the collaboration. If a collaboration partner fails to conduct its product development, commercialization, regulatory compliance, sales and marketing or distribution activities successfully and in a timely manner, or if it terminates or materially modifies its agreements with us, the development and commercialization of one or more product candidates could be delayed, curtailed, or terminated because we may not have sufficient financial resources or capabilities to continue such development and commercialization on our own.

We have no marketing, sales, or distribution resources for the commercialization of any products or technologies that we might successfully develop.

We do not have any infrastructure for the sales, marketing or distribution of our products, and the cost of establishing and maintaining such an organization may exceed the cost-effectiveness of doing so. There are significant expenses and risks involved with establishing our own sales, marketing and distribution capabilities, including our ability to hire, retain and appropriately incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel, and effectively manage a geographically dispersed sales and marketing team. Any failure or delay in the development of our internal sales, marketing and distribution capabilities could delay any product launch, which would adversely impact the commercialization of any approved product candidate.

If we market products through arrangements with third parties, we may pay sales commissions to sales representatives or we may sell or consign products to distributors at wholesale prices. As a result, our gross profit from product sales may be lower than it would be if we were to sell our products directly to end users at retail prices through our own sales force. There can be no assurance we will able to negotiate distribution or sales agreements with third parties on favorable terms to justify our investment in our products or achieve sufficient revenues to support our operations.

If we are unable to build our own sales force or negotiate a collaborative relationship for the commercialization of our product candidates, we may be forced to delay the potential commercialization of such candidates or reduce the scope of our sales or marketing activities for them. If we elect to increase our expenditures to fund commercialization activities ourselves, we will need to obtain additional capital, which may not be available to us on acceptable terms, or at all. We could enter into arrangements with collaborative partners at an earlier stage than otherwise would be ideal and we may be required to relinquish rights to our product candidates or otherwise agree to terms unfavorable to us, any of which may have an adverse effect on our business, operating results and prospects.

If we are unable to establish adequate sales, marketing and distribution capabilities, either on our own or in collaboration with third parties, we will not be successful in commercializing our product candidates and may not become profitable and may incur significant additional losses. We will be competing with many companies that currently have extensive and well-funded marketing and sales operations. Without an internal team or the support of a third party to perform marketing and sales functions, we may be unable to compete successfully against these more established companies.

We do not have the ability to independently conduct clinical trials required to obtain regulatory approvals for our product candidates and intend to rely on third parties to conduct, supervise and monitor our clinical trials.

We will need to rely on third parties, such as contract research organizations, data management companies, contract clinical research associates, medical institutions, clinical investigators and contract laboratories to conduct any clinical trials that we may undertake for our product candidates. We may also rely on third parties to assist with our preclinical development of product candidates.

If we outsource clinical trials, we may be unable to directly control the timing, conduct and expense of our clinical trials. However, we will remain responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards and our reliance on the CROs does not relieve us of our regulatory responsibilities.

We and our third party contractors will be required to comply with the GLPs and GCPs, which are regulations and guidelines enforced by the FDA and are also required by the Competent Authorities of the Member States of the European Economic Area and comparable foreign regulatory authorities in the form of International Conference on Harmonization guidelines for any of our product candidates that are in preclinical and clinical development. The Regulatory authorities enforce GCPs through periodic inspections of trial sponsors, principal investigators and clinical trial sites. If we or our third party contractors fail to comply with GCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials comply with GCP regulations. In addition, our clinical trials must be conducted with product produced under cGMP regulations. Accordingly, if our third party contractors fail to comply with these regulations or fail to recruit a sufficient number of subjects, we may be required to repeat clinical trials, which would delay the regulatory approval process.

Our third party contractors will not be our employees, and we will not control whether or not they devote sufficient time and resources to our future clinical and nonclinical programs. These third party contractors may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials, or other product development activities which could harm our competitive position. We face the risk of potential unauthorized disclosure or misappropriation of our intellectual property by third party contractors, which may reduce our trade secret protection and allow our potential competitors to access and exploit our proprietary technology. If our third party contractors do not successfully carry out their contractual duties or obligations, fail to meet expected deadlines, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for any other reasons, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize any product candidate that we develop. As a result, our financial results and the commercial prospects for any product candidate that we develop would be harmed, our costs could increase, and our ability to generate revenues could be delayed.

If our relationship with any third party contractors terminate, we may not be able to enter into arrangements with alternative third party contractors or do so on commercially reasonable terms. Switching or adding additional third party contractors involves substantial cost and requires management time and focus. In addition, there is a natural transition period when a new third party commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. Though we intend to carefully manage our relationships with our third party contractors, there can be no assurance that we will not encounter challenges or delays in the future or that these delays or challenges will not have an adverse impact on our business, financial condition and prospects.

Risks Related to Intellectual Property

If we are unable to obtain and enforce patents and to protect our trade secrets, others could use our technology to compete with us, which could limit opportunities for us to generate revenues by licensing our technology and selling our products.

- Our success will depend in part on our ability to obtain and enforce patents and maintain trade secrets in the United States and in other countries. If we are unsuccessful in obtaining and enforcing patents, our competitors could use our technology and create products or technologies that compete with our products and technologies, without paying license fees or royalties to us.

- The preparation, filing, and prosecution of patent applications can be costly and time consuming. Our limited financial resources may not permit us to pursue patent protection of all of our technology and products throughout the world.

- Even if we are able to obtain issued patents covering our technology or products, we may have to incur substantial legal fees and other expenses to enforce our patent rights in order to protect our technology and products from infringing uses. We may not have the financial resources to finance the litigation required to preserve our patent and trade secret rights.

There is no certainty that our pending or future patent applications will result in the issuance of patents.

We acquired rights to patent applications for technology that BioTime has developed, and we may file additional new patent applications in the future seeking patent protection for new technology or products that we develop ourselves or jointly with others. However, there is no assurance that any of our licensed patent applications, or any patent applications that we may file in the future in the United States or abroad, will result in the issuance of patents.

The process of applying for and obtaining patents can be expensive and slow.

- The preparation and filing of patent applications, and the maintenance of patents that are issued, may require substantial time and money.

- A patent interference proceeding may be instituted with the U.S. Patent and Trademark Office (the "USPTO") when more than one person files a patent application covering the same technology, or if someone wishes to challenge the validity of an issued patent. At the completion of the interference proceeding, the USPTO will determine which competing applicant is entitled to the patent, or whether an issued patent is valid. Patent interference proceedings are complex, highly contested legal proceedings, and the USPTO's decision is subject to appeal. This means that if an interference proceeding arises with respect to any of our patent applications, we may experience significant expenses and delay in obtaining a patent, and if the outcome of the proceeding is unfavorable to us, the patent could be issued to a competitor rather than to us.

- A derivation proceeding may be instituted by the USPTO or an inventor alleging that a patent or application was derived from the work of another inventor.

- Post Grant Review under the new America Invents Act will make available opposition-like proceedings in the United States. As with the USPTO interference proceedings, Post Grant Review proceedings will be very expensive to contest and can result in significant delays in obtaining patent protection or can result in a denial of a patent application.

- Oppositions to the issuance of patents may be filed under European patent law and the patent laws of certain other countries. As with USPTO interference proceedings, these foreign proceedings can be very expensive to contest and can result in significant delays in obtaining a patent or can result in a denial of a patent application.

Intellectual property we may develop using grants received from the federal government are subject to rights maintained by the government.

Research and development we perform that is funded by grants from the federal government, and any intellectual property that we create using those grants, is subject to the rights maintained by the federal government.

Our patents may not protect our technologies or products from competition.

- We might not be able to obtain any patents beyond those we already own or have licensed or sublicensed, and any patents that we do obtain might not be comprehensive enough to provide us with meaningful patent protection.

- There will always be a risk that our competitors might be able to successfully challenge the validity or enforceability of any patent issued to us.

- In addition to interference proceedings, the USPTO can reexamine issued patents at the request of a third party. Our patents may be subject to inter partes review (replacing the reexamination proceeding), a proceeding in which a third party can challenge the validity of one of our patents to have the patent invalidated. This means that patents owned or licensed by us may be subject to reexamination and may be lost if the outcome of the reexamination is unfavorable to us.

- The patents to which we have licenses to, including the licenses to *HyStem* are broadly licensed to other companies and in some instances, in overlapping fields of use. Asterias Biotherapeutics, Inc. ("Asterias"), a wholly-owned subsidiary of BioTime, has a non-exclusive license to *HyStem* patents in certain fields of use that overlap with the AgeX sublicensed fields of use. Asterias and AgeX may create competing products. In addition, AgeX, through our subsidiary ReCyte Therapeutics, is a sublicensee under the BioTime Asterias Cross-license, which creates another potential risk of Asterias and AgeX creating competing products.

We may be subject to patent infringement claims that could be costly to defend, which may limit our ability to use disputed technologies, and which could prevent us from pursuing research and development or commercialization of some of our technologies or products, require us to pay licensing fees to have freedom to operate and/or result in monetary damages or other liability for us.

The success of our business depends significantly on our ability to operate without infringing patents and other proprietary rights of others. If the technology that we use infringes a patent held by others, we could be sued for monetary damages by the patent holder or its licensee, or we could be prevented from continuing research, development, and commercialization of technologies and products that rely on that technology, unless we are able to obtain a license to use the patent. The cost and availability of a license to a patent cannot be predicted, and the likelihood of obtaining a license at an acceptable cost would be lower if the patent holder or any of its licensees is using the patent to develop or market a technology or product with which our technologies or products would compete. If we could not obtain a necessary license, we would need to develop or obtain rights to alternative technologies, which could prove costly and could cause delays in developing our technologies or products, or we could be forced to discontinue the development or marketing of any technologies and products that were developed using the technology covered by the patent.

Risks Related to Our Relationship with BioTime and Juvenescence

We will initially rely upon BioTime for certain services and resources

Although we have signed a sublease that will allow us to have our own research facilities in the near future if the Preconditions to the sublease are met, we will continue to rely on the use of a portion of BioTime's office and laboratory facilities until the New Facility under the sublease becomes available to us or we locate and lease an alternative facility. We also are relying on BioTime to provide certain management and administrative services, including patent prosecution, certain legal services, human resources management, accounting, financial management, and controls over financial accounting and reporting, although we plan to have our own management and administrative personnel in the future. We have entered into the Shared Facilities Agreement with BioTime under which we have agreed to bear costs allocated to us by BioTime for our use of BioTime's office and laboratory facilities and human resources, and for services and materials provided for our benefit by BioTime. We will pay BioTime 105% of its costs of providing personnel and services to us, and for our use of its facilities, including an allocation of general overhead based on that use. We may also share the services of some research personnel with BioTime. Either party to the Shared Facilities Agreement may terminate the agreement for any reason with six months written notice to the other party, except that BioTime may not give us a notice of termination prior to September 1, 2020.

If BioTime's human resources are not sufficient to serve both BioTime's needs and ours, or if the Shared Facilities Agreement is terminated, we will have to hire additional personnel of our own, either on a full-time or part-time basis, as employees or as consultants, and the cost of doing so could be greater than the costs that would be allocated to us by BioTime. Also, any new personnel that we may need to hire may not be as familiar with our business or operations as BioTime's personnel, which means that we would incur the expense and inefficiencies related to training new employees or consultants.

Our Chief Financial Officer and Chief Operating Officer are not fulltime AgeX employees.

Our Chief Financial Officer is the former Chief Financial Officer of BioTime and is providing services to us on a part-time basis as a consultant. Because he is not a full-time employee, we may compete for his time and attention with other companies for whom he may provide services. Our Chief Operating Officer is an employee of Juvenescence and is expected to devote 85% of his time to our affairs and the balance of his time to the affairs of Juvenescence and accordingly we may compete with Juvenescence for his time and attention.

Conflicts of interest may arise from our relationship with BioTime.

As of March 18, 2019, BioTime beneficially owned approximately 4.6% of the voting power of our outstanding common stock, and we have also entered into a Shared Services Agreement with BioTime. Our relationship with BioTime could give rise to certain conflicts of interest that could have an impact on our research and development programs, business opportunities, and operations generally.

- Even if we utilize different technologies than BioTime or its subsidiaries, we could find ourselves in competition with them for research scientists, financing and other resources, licensing, manufacturing, and distribution arrangements, and for customers if we and BioTime or a BioTime subsidiary both bring competing products or technologies to market.

- BioTime and its subsidiaries will engage for their own accounts in research and product development programs, investments, and business ventures, and we will not be entitled to participate or to receive an interest in those programs, investments, or business ventures. BioTime and its other subsidiaries will not be obligated to present any particular research and development, investment, or business opportunity to us, even if the opportunity would be within the scope of our research and development plans or programs, business objectives, or investment policies. These opportunities may include, for example, opportunities to acquire businesses or assets, including but not limited to patents and other intellectual property that could be used by us or by BioTime or by any of BioTime's subsidiaries.

- We have entered into certain patent and technology licenses and sublicenses, and other agreements with BioTime and certain BioTime subsidiaries. The BioTime companies that are parties to those agreements will have interests that conflict with our interests in determining how and when they should enforce their rights under the agreements if we were to default or otherwise fail to perform any of our obligations under the agreements. In addition, our agreements with BioTime related to the Distribution, including the Tax Matters Agreement and Employee Matters Agreement, have been negotiated with BioTime in the context of our separation from BioTime. Accordingly, these agreements may not reflect terms that would have resulted from negotiations among unaffiliated third parties.

- Each conflict of interest will be resolved by our respective boards of directors in keeping with their fiduciary duties and such policies as they may implement from time to time. However, the terms and conditions of our current patent and technology licenses and other agreements with BioTime or BioTime subsidiaries may not reflect terms and conditions that would have resulted from negotiations among unaffiliated third parties due to BioTime's ownership of a controlling interest in us at the time we entered into those licenses, sublicenses and other agreements.

Conflicts of interest may arise from our relationship with Juvenescence, which owns a significant percentage of our common stock and will be able to substantially influence us and exert control over matters subject to stockholder approval and the election of directors.

As of March 18, 2019, Juvenescence beneficially owned approximately 43.6% of the voting power of our outstanding common stock, which will be enable them to substantially influence us and exert control through this ownership position. For example, Juvenescence will be able to exert control over or substantially influence elections of directors, approval of our equity incentive plans, amendments to our organizational documents, or approval of any merger, amalgamation, sale of assets or other major corporate transaction. Juvenescence has controlling stakes and minority investments in several other companies engaged in various aspects of the aging industry, which companies may propose collaborations with AgeX. Juvenescence's interests may not always coincide with our corporate interests or the interests of other stockholders, and it may exercise its voting and other rights in a manner with which you may not agree or that may not be in the best interests of our other stockholders. So long as Juvenescence continues to own a significant amount of our equity, it will continue to be able to strongly influence and effectively control our decisions. While the directors elected by Juvenescence will be obligated to act in accordance with their fiduciary duty, they may have equity or other interests in Juvenescence and, accordingly, their interests may be aligned with Juvenescence's interests, which may not always coincide with our corporate interests or the interests of our other stockholders.

Our ability to meet our capital needs may be harmed by the loss of financial support from BioTime.

The loss of financial support from BioTime could harm our ability to meet our capital needs. BioTime historically has provided financing to us at rates that we believe are not representative of the cost of financing that we will incur as a stand-alone company. As a public company, we expect to obtain any funds needed in excess of the amounts generated by our operating activities through the capital markets or bank financing, and not from BioTime. As public company, the cost of our financing also will depend on other factors such as our performance and financial market conditions generally. Further, we cannot guarantee that we will be able to obtain capital market financing or credit on favorable terms, or at all, in the future. We cannot be certain that our ability to meet our capital needs, including servicing our own debt, will not be harmed by the loss of financial support from BioTime.

Our accounting and other management systems and resources may not be adequately prepared to meet the financial reporting and other requirements to which we will be subject as a public company, and failure to achieve and maintain effective internal controls could have a material adverse effect on our business and the price of our common stock.

Our financial results previously were included within the consolidated results of BioTime, and we believe that our financial reporting and internal controls were appropriate for a subsidiary of a public company. However, we were not directly subject to the reporting and other requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). As a result of the Distribution, we are now directly subject to reporting and other obligations under the Exchange Act. We will be required to comply with Section 404 of the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act") which will require annual management assessments of the effectiveness of our internal controls over financial reporting and after our status as an emerging growth company expires, we will be required to obtain a report by our independent registered public accounting firm as to whether we maintained, in all material respects, effective internal controls over financial reporting as of the last day of the year. These reporting and other obligations may place significant demands on our management, administrative and operational resources, including accounting systems and resources.

The Exchange Act requires that we file annual, quarterly and current reports with respect to our business and financial condition. Under the Sarbanes-Oxley Act, we are required to maintain effective disclosure controls and procedures and internal controls over financial reporting. To comply with these requirements, we may need to establish our own systems; implement additional financial and management controls, reporting systems and procedures; and hire additional accounting and finance staff to replace or supplement the systems and services provided to us by BioTime under the Shared Facilities Agreement. We expect to incur additional annual expenses for the purpose of addressing these requirements, and those expenses may be significant. If we are unable to establish our financial and management controls, reporting systems, information technology systems and procedures in a timely and effective fashion, our ability to comply with our financial reporting requirements and other rules that apply to reporting companies under the Exchange Act could be impaired.

If, during periods we are required to assess the effectiveness of our internal controls, we are unable to conclude that we have effective internal controls over financial reporting, we may be unable to report our financial information on a timely basis, investors may lose confidence in our operating results, the price of our common stock could decline and we may be subject to litigation or regulatory enforcement actions, which would require additional financial and management resources. This could have a material adverse effect on our business and lead to a decline in the price of our common stock.

Risks Pertaining to Our Common Stock

There is a limited history to the public trading of our common stock and there is no assurance that a market for our common stock will be sustained.

Public trading of our common stock on the NYSE American began on November 29, 2018. Accordingly, there is only a limited history of the public trading of our common stock and there can be no assurance that an active market for our common stock will be sustained.

We cannot predict the prices at which our common stock may trade. The market price of our common stock may fluctuate significantly, depending upon many factors, some of which may be beyond our control, including, but not limited to:

- a shift in our investor base;
- our quarterly or annual earnings, or those of comparable companies;
- actual or anticipated fluctuations in our operating results;
- our ability to obtain financing as needed;
- changes in laws and regulations affecting our business;
- changes in accounting standards, policies, guidance, interpretations or principles;
- announcements by us or our competitors of significant investments, acquisitions or dispositions;
- the failure of securities analysts to cover our common stock;
- changes in earnings estimates by securities analysts or our ability to meet those estimates;
- the operating performance and stock price of comparable companies;
- overall market fluctuations; and
- general economic conditions and other external factors.

Additional shares of our common stock will become eligible for public sale, and sales of those shares could create downward pressure on the trading price of our common stock.

Shares of our common stock issued before the Distribution, including shares held by Juvenescence, and shares issued upon the exercise of common stock purchase warrants during March 2019, are or will become eligible to be publicly sold without registration in compliance with the provisions of Rule 144 under the Securities Act of 1933, as amended (the "Securities Act") after the shares have been beneficially owned for at least six months if we have filed all reports required under the Exchange Act, other than any Current Report on Form 8-K. Even if we fail to file those Exchange Act reports, shares that a stockholder has beneficially owned for more than one year may be sold by the stockholder under Rule 144 if at the stockholder has not been an "affiliate" of AgeX within the meaning of Rule 144 at any time during the 90 days immediately before the sale. Certain holders of shares that we issued before the Distribution or through the exercise of warrants also have certain contractual rights to have their shares registered for sale under the Securities Act. Sales of AgeX common stock under Rule 144 or through a Securities Act registration statement could create downward pressure on the trading price of our common stock.

Because we are engaged in the development of pharmaceutical and cell therapy products, the price of shares of our common stock may rise and fall rapidly.

The price of our common stock may rise rapidly in response to certain events, such as the commencement of clinical trials of an experimental new therapy, even though the outcome of those trials and the likelihood of ultimate FDA approval of a therapeutic product remain uncertain. Similarly, prices of our common stock may fall rapidly in response to certain events such as unfavorable results of clinical trials or a delay or failure to obtain FDA approval. Further, the failure of our earnings to meet analysts' expectations could result in a significant rapid decline in the market price of our common stock

Because we do not pay dividends, our stock may not be a suitable investment for anyone who needs to earn dividend income.

We do not have current plans to pay any cash dividends on our common stock. The declaration, amount and payment of any future dividends on shares of common stock will be at the sole discretion of our Board of Directors. Our Board of Directors may take into account general and economic conditions, our financial condition and results of operations, our available cash and current and anticipated cash needs, capital requirements, contractual, legal, tax and regulatory restrictions and implications on the payment of dividends by us to our stockholders or by our subsidiaries to us and such other factors as our Board of Directors may deem relevant. For the foreseeable future we anticipate that any earnings generated in our business will be used to finance the growth of our business and will not be paid out as dividends to our stockholders. This means that our stock may not be a suitable investment for anyone who needs to earn income from their investments.

Securities analysts may not initiate coverage or continue to cover our common stock, and this may have a negative impact on the market price of our shares.

The market price and liquidity of our common stock will depend, in part, on the research and reports that securities analysts publish about our business and our common stock. We do not have any control over these analysts. There is no guarantee that securities analysts will cover our common stock. If securities analysts do not cover our common stock, the lack of research coverage may adversely affect the market price of those shares. If securities analysts do cover our shares, they could issue reports or recommendations that are unfavorable to the price of our shares, and they could downgrade a previously favorable report or recommendation, and in either case our share price could decline as a result of the report. If one or more of these analysts ceases to cover our shares or fails to publish regular reports on our business, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

You may experience dilution of your ownership interests if we issue additional shares of common stock or preferred stock.

In the future, we may issue our authorized but previously unissued equity securities, resulting in the dilution of the ownership interests of our present stockholders. We are currently authorized to issue an aggregate of 105,000,000 shares of capital stock consisting of 100,000,000 shares of common stock and 5,000,000 "blank check" shares of preferred stock. As of March 19, 2019 there were 37,630,000 shares of common stock issued and outstanding, and 2,268,500 shares of common stock reserved for issuance upon the exercise of outstanding stock options or other stock-based awards under our 2017 Equity Incentive Plan. No shares of preferred stock are presently outstanding.

We may issue additional common stock or other securities that are convertible into or exercisable for common stock in order to raise additional capital, or in connection with hiring or retaining employees or consultants, or in connection with future acquisitions of licenses to technology or medical products or for other business purposes. The future issuance of any additional shares of common stock or other securities may create downward pressure on the trading price of our common stock.

We may also issue preferred stock having rights, preferences, and privileges senior to the rights of our common stock with respect to dividends, rights to share in distributions of our assets if we liquidate our company, or voting rights. Any preferred stock may also be convertible into common stock on terms that would be dilutive to holders of common stock.

Unless our common stock continues to be listed on a national securities exchange it will become subject to the so-called "penny stock" rules that impose restrictive sales practice requirements.

If we are unable to maintain the listing of our common stock on the NYSE American or another national securities exchange, our common stock could become subject to the so-called "penny stock" rules if the shares have a market value of less than $5.00 per share. The SEC has adopted regulations that define a penny stock to include any stock that has a market price of less than $5.00 per share, subject to certain exceptions, including an exception for stock traded on a national securities exchange. The SEC regulations impose restrictive sales practice requirements on broker-dealers who sell penny stocks to persons other than established customers and accredited investors. An accredited investor generally is a person whose individual annual income exceeded $200,000, or whose joint annual income with a spouse exceeded $300,000 during the past two years and who expects their annual income to exceed the applicable level during the current year, or a person with net worth in excess of $1.0 million, not including the value of the investor's principal residence and excluding mortgage debt secured by the investor's principal residence up to the estimated fair market value of the home, except that any mortgage debt incurred by the investor within 60 days prior to the date of the transaction shall not be excluded from the determination of the investor's net worth unless the mortgage debt was incurred to acquire the residence. For transactions covered by this rule, the broker-dealer must make a special suitability determination for the purchaser and must have received the purchaser's written consent to the transaction prior to sale. This means that if we are unable maintain the listing of our common stock on a national securities exchange, the ability of stockholders to sell their AgeX common stock in the secondary market could be adversely affected.

If a transaction involving a penny stock is not exempt from the SEC's rule, a broker-dealer must deliver a disclosure schedule relating to the penny stock market to each investor prior to a transaction. The broker-dealer also must disclose the commissions payable to both the broker-dealer and its registered representative, current quotations for the penny stock, and, if the broker-dealer is the sole market-maker, the broker-dealer must disclose this fact and the broker-dealer's presumed control over the market. Finally, monthly statements must be sent disclosing recent price information for the penny stock held in the customer's account and information on the limited market in penny stocks.

We are an "emerging growth company," and may elect to comply with reduced public company reporting requirements applicable to emerging growth companies, which could make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies" including reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. We cannot predict if investors will find our common stock less attractive because we may rely 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 our stock price may be more volatile. We may take advantage of these reporting exemptions until we are no longer an "emerging growth company." We will remain an "emerging growth company" until the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more; (ii) the last day of the fiscal year following the fifth anniversary of the date of the first sale of our common equity securities pursuant to an effective registration statement under the Securities Act; (iii) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a "large accelerated filer" under the Exchange Act.

We could be subject to securities class action litigation.

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

The implementation of a new FASB accounting standard could increase the risk that our future consolidated financial statements could be qualified by going concern uncertainty.

We are subject to ASU No. 2014-15, " *Presentation of Financial Statements-Going Concern (Subtopic 205-40): Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern,* " which defines management's responsibility to assess an entity's ability to continue as a going concern, and to provide related footnote disclosures. In connection with preparing consolidated financial statements for each annual and interim reporting period, ASU No. 2014-15 requires that an entity's management evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the entity's ability to continue as a going concern within one year after the date that the consolidated financial statements are issued (or within one year after the date that the consolidated financial statements are available to be issued when applicable). As a result of the implementation of ASU No. 2014-15, we will be required to have more cash, cash equivalents, and liquid investments on hand on the date we issue or file our consolidated financial statements than had been the case during prior years in order to avoid a going concern qualification in our auditor's report and in the footnotes to our consolidated financial statements. If our consolidated financial statements were to become subject to a going concern qualification or uncertainty or if we are unable to alleviate substantial doubt as part of our going concern assessment, or both, the market price of our common stock could decline.

Provisions in our certificate of incorporation and bylaws and under Delaware law could make an acquisition of our company, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our certificate of incorporation and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control of our company that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our Board of Directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our Board of Directors. Among other things, these provisions include those establishing:

- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- the ability of our Board of Directors to authorize the issuance of shares of preferred stock and to determine the terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer; and
- the ability of our Board of Directors to alter our bylaws without obtaining stockholder approval.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the General Corporation Law of the State of Delaware, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

Item 1B . **Unresolved Staff Comments**

None.

Item 2 . **Properties**

On March 21 2019, we entered into a sublease of the New Facility comprising approximately 23,911 square feet of space in a building in an office and research park at 965 Atlantic Avenue, Alameda, California. We plan to operate our principal offices and research laboratory in the New Facility and to construct a cGMP laboratory for the manufacture of our cell lines and cell based product candidates. The availability of the New Facility for our use and our obligation to pay rent under the sublease is subject to the satisfaction of the Preconditions. If the Preconditions are met, base monthly rent will be $35,866.50 for the initial 12 months of the sublease term and then will increase to $36,942.50. In addition, we will pay real property taxes, insurance and operating expenses pertaining to the building in which the New Facility is located. The sublease term will expire on December 31, 2020.

We will be responsible for the maintenance and repair of the leased New Facility, including electrical, plumbing, HVAC and other systems serving the New Facility but excluding structural and other external portions of the building in which the New Facility is located, and other external areas such as parking, landscaping and walkways associated with the building.

We will be in default under the sublease, and the sublandlord may terminate our sublease and may exercise other remedies against us for losses and damages under the sublease and applicable law, if any one or more of the following events occurs: (a) we fail to pay any rent or any other sum required to be paid under the sublease for a period of ten (10) days after written notice of delinquency is delivered by the sublandlord; provided, however, that if we fail to pay rent or other sums due within ten (10) days of the date due three or more times during any twelve month period, then our subsequent failure to pay any rent or other sum when due shall constitute a default without the requirement of any written notice; (b) a material default by us in the performance of any other terms, covenants or conditions of the sublease where the failure continues for thirty (30) days after written notice from the sublandlord; provided that if we default in the performance of the same obligation three or more times in any twelve month period and notice from the sublandlord was given in each instance, no cure period shall thereafter be applicable; (c) we become bankrupt or insolvent, make an assignment for the benefit of creditors, bankruptcy or reorganization proceedings are commenced by or against us, and in the case of an involuntary proceeding are not discharged within 60 days, the appointment of a receiver for a substantial part of our assets, or the levy upon the sublease or our estate in the sublease by attachment or execution, or (d) we abandon the New Facility.

We have agreed to indemnify the sublandlord against certain liabilities arising under laws pertaining to hazardous materials. Our indemnity of the sublandlord will pertain to any deposit, spill, discharge or release of hazardous materials that occurs during the term of the sublease or from our failure to comply with requirements of governmental authorities.

The sublease requires us to maintain certain liability and other insurance and contains customary provisions pertaining to matters such as damage or destruction of the New Facility, taking by eminent domain or similar process, restrictions on subletting and assignment, and other matters.

If the Preconditions are not satisfied, we will continue to use a portion of BioTime's laboratory and office space under the Shared Facilities Agreement until such time as we are able to lease an alternative office and laboratory facility suitable for the manufacture of cell lines and our product candidates under cGMP conditions. BioTime has a lease of approximately 30,795 square feet of rentable space in two buildings located in an office park setting in Alameda, California. Under the Shared Facilities Agreement, we have use of approximately 2,239 square feet of allocated laboratory and office space and use of approximately 18,000 square feet of common areas which we share with BioTime and its subsidiaries and affiliates in the same facility. BioTime's facilities do not include a laboratory for the manufacture of cell lines or our product candidates under cGMP conditions. BioTime's lease expires on January 31, 2023.

Item 3 . **Legal Proceedings**

From time to time, we may be involved in routine litigation incidental to the conduct of our business. We are not presently involved in any material litigation or proceedings, and to our knowledge no such litigation or proceedings are contemplated.

Item 4. Mine Safety Disclosures

Not applicable.

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

Our common stock has been traded on the NYSE American under the symbol "AGE" since November 29, 2018.

As of March 25, 2019, we had 270 holders of record of our common stock. This number does not include stockholders whose shares of AgeX common stock are held in "street name" in accounts with securities broker-dealers or other financial institutions or fiduciaries.

The following table shows certain information concerning the stock options outstanding and available for issuance under all of our compensation plans and agreements as of December 31, 2018 (in thousands, except weighted average exercise price):

Plan Category	Number of Shares to be Issued upon Exercise of Outstanding Options, Warrants, and Rights	Weighted Average Exercise Price of the Outstanding Options, Warrants, and Rights	Number of Shares Remaining Available for Future Issuance under Equity Compensation Plans
AgeX Stock Option Plans Approved by Stockholders	2,269	$ 2.42	1,731

Additional information concerning our Employee Stock Option Plan and the stock options may be found in Note 6 to the Financial Statements.

Dividend Policy

We have never declared or paid any cash dividends on our common stock. For the foreseeable future, we anticipate that all available funds and any earnings generated in our business will be used to finance the growth of our business and will not be paid out as dividends to our stockholders. Any future determination related to our dividend policy will be made at the discretion of our Board of Directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our Board of Directors may deem relevant.

Item 6. Selected Financial Data

Not applicable.

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

The following Management's Discussion and Analysis of Financial Condition and Results of Operations is intended to provide information necessary to understand our audited consolidated financial statements for the years ended December 31, 2018 and 2017, and highlight certain other information which, in the opinion of management, will enhance a reader's understanding of our financial condition, changes in financial condition and results of operations. These historical financial statements may not be indicative of our future performance. This Management's Discussion and Analysis of Financial Condition and Results of Operations contains a number of forward-looking statements, all of which are based on our current expectations and could be affected by the uncertainties and risks described throughout this filing, particularly in "Risk Factors."

Emerging Growth Company Status

The Jumpstart our Business Startups Act of 2012 ("JOBS Act") permits an "emerging growth company" such as AgeX to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. However, we elected to comply with newly adopted or revised accounting standards when they become applicable to public companies because our financial statements were consolidated with those of BioTime, which is not an emerging growth company under the JOBS Act and is therefore not permitted to delay the adoption of new or revised accounting standards that become applicable to public companies. This election under the JOBS Act to not delay the adoption of new or revised accounting standards is irrevocable.

Overview

We were incorporated in January 2017 in the state of Delaware as a subsidiary of BioTime, a publicly traded, clinical-stage biotechnology company targeting degenerative diseases. BioTime common stock trades on the NYSE American and Tel Aviv Stock Exchange under the symbol "BTX".

We are a biotechnology company focused on the development and commercialization of novel therapeutics targeting human aging. Our initial discovery and preclinical programs focus on utilizing brown adipose tissue in targeting diabetes, obesity, and heart disease; and induced tissue regeneration in utilizing the human body's own abilities to scarlessly regenerate tissues damaged from age or trauma . We may also pursue other early-stage pre-clinical programs.

On August 17, 2017, we completed an asset acquisition and stock sale pursuant to which we received certain assets from BioTime for use in our research and development programs and raised $10.0 million in cash from investors to finance our operations.

From February 28, 2018 to July 10, 2018, we sold warrants to purchase 2,000,000 shares of AgeX common stock (the "Warrants") for $0.50 per warrant for aggregate cash proceeds of $1,000,000. The Warrants were exercisable at $2.50 per share. Pursuant to the Warrant Agreement governing the Warrants, we set March 18, 2019 as the expiration date of the Warrants and by that date Warrant holders purchased 1.8 million shares of common stock through the exercise of the Warrants for $4.5 million in the aggregate. The Warrants were classified as equity since, among other factors, they were not redeemable, could not be settled in cash or other assets and required settlement by issuing a fixed number of shares of AgeX common stock. The Warrants were sold at fair value determined using the Binomial Lattice option pricing model on the issuance date, with certain management assumptions, which included the timing of an initial public offering of AgeX common stock, peer-group volatility, term to maturity, price cap and AgeX current and future stock prices.

On June 7, 2018, we sold 2.0 million shares of common stock for $2.50 per share to Juvenescence for aggregate cash proceeds to us of $5.0 million. These financings have allowed us to focus our resources on our pre-clinical programs.

On August 30, 2018, BioTime consummated the secondary sale of 14.4 million of its shares of AgeX common stock to Juvenescence pursuant to a stock purchase agreement. Upon completion of the transaction, BioTime's ownership in us was reduced from 80.4% to 40.2% of our issued and outstanding shares of common stock, and Juvenescence's ownership in AgeX was increased from 5.6% to 45.8% of our issued and outstanding shares of common stock. As a result, beginning on August 30, 2018, we are no longer considered a subsidiary of BioTime because, on that date, BioTime experienced a "loss of control" of a subsidiary, as defined by generally accepted accounting principles in the United States. Loss of control is deemed to have occurred when, among other things, a parent company owns less than a majority of the outstanding common stock in a subsidiary, lacks a controlling financial interest in the subsidiary, and is unable to unilaterally control the subsidiary through other means such as having, or being able to obtain, the power to elect a majority of the subsidiary's Board of Directors based solely on contractual rights or ownership of shares holding a majority of the voting power of the subsidiary's voting securities. All of these loss-of-control factors were present with respect to BioTime's ownership interest in us as of August 30, 2018. Accordingly, BioTime deconsolidated our consolidated financial statements and results from its consolidated financial statements and results beginning on August 30, 2018.

On November 28, 2018, BioTime owned 14,416,000 shares of our common stock, representing approximately 40.2% of the shares of the common stock issued and outstanding on the Distribution Date. On the Distribution Date, BioTime distributed to its shareholders, on a pro rata basis, 12,697,028 shares of the AgeX common stock it then held. Immediately after the Distribution, BioTime retained 1,718,972 shares of AgeX common stock, representing approximately 4.8% of the common stock then issued and outstanding. Following the Distribution, our common stock began publicly trading on the NYSE American under the symbol "AGE".

Since inception, our operations have focused on building our technology platform, identifying potential product candidates, establishing and protecting our intellectual property and raising capital. Our revenues have been principally derived from subscription and advertising revenue from LifeMap Sciences' online databases based upon applicable subscription or advertising periods. We do not have any products approved for sale and have not generated any revenue from product sales.

We believe we have sufficient capital to carry out our current research and development programs and other operations through at least twelve months from the issuance date of our consolidated financial statements included elsewhere in this Report. We will need to obtain additional financing in order to continue our research and development programs after that date. See "Liquidity and Capital Resources" for a discussion of our available capital resources, our need for future financing.

Since inception, we have incurred significant operating losses. Our operating losses were $11.2 million and $6.7 million, for the years ended December 31, 2018 and 2017, respectively. As of December 31, 2018, we had an accumulated deficit of $74.1 million. We expect to continue to incur significant expenses and operating losses over the next several years. We anticipate that our expenses will increase significantly in connection with our ongoing activities, if we:

- commence clinical development of our product candidates;
- continue activities to discover, validate and develop additional product candidates;
- maintain, expand and protect our intellectual property portfolio;
- hire research, development and general and administrative personnel as we begin operations as a standalone, publicly-traded company; and
- incur additional costs associated with operating as a public company.

Critical Accounting Policies

The preparation of financial statements in conformity with accounting principles generally accepted in the United States ("GAAP"), requires management to make estimates and assumptions that affect the reported amounts in our consolidated financial statements and related notes. Our significant accounting policies are described in Note 2 to our consolidated financial statements included elsewhere in this Report. We have identified below our critical accounting policies and estimates that we believe require the greatest amount of judgment. On an ongoing basis, we evaluate our estimates that are subject to significant judgment including those related to going concern assessment of consolidated financial statements, allocations and adjustments necessary for carve-out basis of presentation, including the separate return method for income taxes, useful lives associated with long-lived assets, including evaluation of asset impairment, allowances for uncollectible accounts receivables, loss contingencies, deferred income taxes and tax reserves, including valuation allowances related to deferred income taxes, and assumptions used to value stock-based awards, or other equity instruments. Actual results could differ materially from those estimates. On an ongoing basis, we evaluate our estimates compared to historical experience and trends, which form the basis for making judgments about the carrying value of assets and liabilities. To the extent that there are material differences between our estimates and our actual results, our future consolidated financial statement presentation, financial condition, results of operations and cash flows will be affected.

We believe the assumptions and estimates associated with the following have the greatest potential impact on our consolidated financial statements.

Principles of consolidation – AgeX's consolidated financial statements include the accounts of its subsidiaries and certain research and development departments, including former BioTime personnel, transferred from BioTime to AgeX in connection with the Asset Contribution Agreement described in Note 4 to our consolidated financial statements. AgeX consolidated its direct and indirect wholly-owned or majority-owned subsidiaries because AgeX has the ability to control their operating and financial decisions and policies through its ownership, and the noncontrolling interest is reflected as a separate element of stockholders' equity on AgeX's consolidated balance sheets.

As of, and for the year ended, December 31, 2018, AgeX consolidated ReCyte Therapeutics, LifeMap Sciences, Inc. ("LifeMap Sciences"), and LifeMap Sciences, Ltd. (Israel) and included the historical expenses of certain former BioTime research and development departments (see Note 4 to our consolidated financial statements). For periods prior to the year ended December 31, 2018, AgeX also consolidated LifeMap Solutions, Inc., a subsidiary of LifeMap Sciences that was transferred to BioTime during June 2017 and subsequently ceased operations and was dissolved.

Going concern assessment – We assess going concern uncertainty for our consolidated financial statements to determine if we have sufficient cash and cash equivalents on hand and working capital to operate for a period of at least one year from the date our consolidated financial statements are issued or are available to be issued, which is referred to as the "look-forward period" as defined by FASB's ASU No. 2014-15. As part of this assessment, based on conditions that are known and reasonably knowable to us, we consider various scenarios, forecasts, projections, and estimates, and we make certain key assumptions, including the timing and nature of projected cash expenditures or programs, among other factors, and our ability to delay or curtail those expenditures or programs within the look-forward period in accordance with ASU No. 2014-15, if necessary.

Related party transactions - Shared Facilities and Services Agreement - As more fully described in Note 4 to our consolidated financial statements included elsewhere in this Report, t o the extent we do not have our own employees, human resources or facilities for our operations, BioTime provides certain employees for administrative or operational services, including laboratory space and administrative facilities, as necessary, for our benefit, under the Shared Facilities Agreement. Accordingly, BioTime allocates expenses such as salaries and payroll related expenses incurred and paid on our behalf based on the amount of time that particular employees devote to AgeX affairs. Other expenses such as legal, accounting and financial reporting, marketing, and travel expenses are allocated to us to the extent that those expenses are incurred by or on behalf of AgeX. BioTime also allocates certain overhead expenses such as rent and utilities, property taxes, insurance, laboratory expenses and supplies, telecommunications and other indirect expenses. These allocations are made based upon activity-based allocation drivers such as time spent, percentage of square feet of office or laboratory space used, headcount and percentage of personnel devoted to our operations or management. Management evaluates the appropriateness of the allocations on a periodic basis and believes that this basis for allocation is reasonable.

Related party transactions - allocated expenses from BioTime - Consistent with the principles of carve-out financial statements and presentation discussed in Note 2 to our consolidated financial statements, certain expenses have been allocated by BioTime and included in our consolidated statements of operations and consolidated statements of stockholders' equity as a contribution by BioTime. Research and development expenses include allocations from BioTime primarily attributable to certain former BioTime research departments contributed to us. Those expenses are primarily comprised of former BioTime personnel and related expenses, including stock-based compensation, and other outside expenses relevant to the nature of the research projects that were contributed to us pursuant to the Asset Contribution Agreement discussed in Note 4 to our consolidated financial statements included elsewhere in this Report. Management considers the allocation methodologies used to allocate expenses as reasonable and appropriate based on historical BioTime expenses attributable to us and our operations for purposes of the standalone, carve-out consolidated financial statements included elsewhere in this Report. The expenses reflected in the consolidated financial statements may not be indicative of expenses that we will incur as an independent, publicly-traded company and should not be relied upon as an indicator of our future results .

Research and development – Research and development expenses include both direct expenses incurred by us or our subsidiaries and indirect overhead costs allocated by BioTime that benefit or support our research and development functions. Direct research and development expenses consist primarily of personnel costs and related benefits, including stock-based compensation, amortization of intangible assets, outside consultants and suppliers, and license fees paid to third parties to acquire patents or licenses to use patents and other technology. Direct research and development expenses also include allocations for carve-out presentation purposes from certain former BioTime research departments discussed above under *Related party transactions - allocated expenses from BioTime* . Indirect research and development expenses include overhead expenses allocated to us by BioTime discussed under *Related party transactions - Shared Facilities and Services Agreement* above. Research and development costs are expensed as incurred. Research and development expenses incurred and reimbursed by grants from third parties or governmental agencies, including service revenues from co-development projects with customers, if any and as applicable, approximate the respective revenues recognized in the consolidated statements of operations.

General and administrative – General and administrative expenses include both direct expenses incurred by us and indirect overhead costs allocated by BioTime that benefit or support our general and administrative functions. Direct general and administrative expenses consist primarily of compensation and related benefits, including stock-based compensation, for executive and corporate personnel, and professional and consulting fees. Direct general and administrative expenses also include allocations for carve-out presentation purposes discussed above under *Related party transactions - allocated expenses from BioTime* . Indirect general and administrative expenses include overhead expenses allocated to us by BioTime discussed under *Related party transactions - Shared Facilities and Services Agreement* above.

Income taxes – For Federal and California purposes, AgeX's activity through August 30, 2018 and for 2017 will be or was included in BioTime's federal consolidated and California combined tax returns. For those periods, the income tax provision was prepared in accordance with ASC 740 , *Income Taxes* , using the separate return method to determine the tax provision of AgeX for carve-out presentation purposes of its consolidated financial statements. The separate return method, amongst other things, requires that the amount of current and deferred tax expense for a group that files a consolidated income tax return be allocated among the members of that group as if each group member were a separate taxpayer. As a result, the provision for income taxes has been presented as if AgeX had filed a separate federal consolidated tax return and a California combined tax return for the periods presented. In using the separate return method, the sum of the amounts allocated to the members of the income tax return group may not equal the consolidated amount. If tax attributes recorded in the carve-out consolidated financial statements are materially different from the actual tax attributes pertaining to us or our legal entities and our subsidiaries, or to BioTime and its subsidiaries, those differences are identified and disclosed in Note 7 to our consolidated financial statements included elsewhere in the Report. Accordingly, depending on our future legal structure and related tax elections that may be taken by us, our effective tax rate in future years could vary materially from our historical effective tax rates. The historical deferred tax assets, including the operating losses and credit carryforwards generated by certain research and development departments that operated within BioTime and were transferred to us on August 17, 2017, have been presented as our tax attributes consistent with the principles of the separate return method described above.

As of December 31, 2018, the deferred tax assets and liabilities presented in Note 7 included elsewhere in this Report, including net operating loss carryforwards and research and development credits, represent the tax attributes of AgeX and its subsidiaries. However, the net operating losses and research and development credits generated before August 17, 2017 with respect to BioTime research departments that were transferred to us on that date will remain as tax attributes of BioTime.

In general, net operating losses and other tax credit carryforwards generated by legal entities in a consolidated federal tax group or a combined state tax group, collectively "the tax group", are available to other members of the tax group depending on the nature of the transaction that a member may enter into while still in the tax group. However, under the Tax Matters Agreement between BioTime and AgeX entered into on August 17, 2017, any use of a member's net operating loss and other tax credit carryforwards by the other member is subject to reimbursement by the benefiting member for the actual tax benefit realized. Since the August 30, 2018 deconsolidation of AgeX and to date, neither BioTime nor AgeX has used the tax attributes of the other.

We account for income taxes in accordance with ASC 740, which prescribes the use of the asset and liability method, whereby deferred tax asset or liability account balances are calculated at the balance sheet date using current tax laws and enacted rates in effect. Valuation allowances are established when necessary to reduce deferred tax assets when it is more likely than not that a portion or all of the deferred tax assets will not be realized. Our judgments, estimates and projections regarding future taxable income may change over time due to changes, among other factors, in market conditions, changes in tax laws, and tax planning strategies. If our assumptions and consequently our estimates change in the future, the valuation allowance may be increased or decreased, which may have a material impact on our consolidated financial statements.

The guidance also prescribes a recognition threshold and a measurement attribute for the financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. For those benefits to be recognized, a tax position must be more-likely-than-not sustainable upon examination by taxing authorities. We recognize accrued interest and penalties related to unrecognized tax benefits as income tax expense. No amounts were accrued for the payment of interest and penalties as of December 31, 2018 and 2017. We are not aware of any uncertain tax positions that could result in significant additional payments, accruals, or other material adjustments for the years ended December 31, 2018 and 2017. We are currently unaware of any tax issues under review.

On December 22, 2017, the United States enacted major federal tax reform legislation, Public Law No. 115-97, commonly referred to as the 2017 Tax Cuts and Jobs Act ("2017 Tax Act"), which enacted a broad range of changes to the Internal Revenue Code. Changes to taxes on corporations impacted by the 2017 Tax Act include, but not limited to, lowering the U.S. federal tax rates to a 21 percent flat tax rate, eliminating the corporate alternative minimum tax ("AMT"), imposing additional limitations on the deductibility of interest and net operating losses, allowing any net operating loss ("NOLs") generated in tax years ending after December 31, 2017 to be carried forward indefinitely and generally repealing carrybacks, reducing the maximum deduction for NOL carryforwards arising in tax years beginning after 2017 to a percentage of the taxpayer's taxable income, and allowing for additional expensing of certain capital expenditures. The 2017 Tax Act also puts into effect a number of changes impacting operations outside of the United States including, but not limited to, the imposition of a one-time tax "deemed repatriation" on accumulated offshore earnings not previously subject to U.S. tax, and shifts the U.S taxation of multinational corporations from a worldwide system of taxation to a territorial system. ASC 740 requires the effects of changes in tax rates and laws on deferred tax balances (including the effects of the one-time transition tax) to be recognized in the period in which the legislation is enacted.

On December 22, 2017, the SEC staff issued Staff Accounting Bulletin No. 118 ("SAB 118") to provide guidance for companies that are not able to complete their accounting for the income tax effects of the 2017 Tax Act in the period of enactment. SAB 118 allows us to record provisional amounts during a measurement period not to extend beyond one year of the enactment date. We applied the guidance in SAB 118 when accounting for the enactment-date effects of the 2017 Tax Act during the years ended December 31, 2018 and 2017. As of December 31, 2018, we completed the accounting for all the enactment-date income tax effects of the 2017 Tax Act as further discussed in Note 7 to our consolidated financial statements included elsewhere in this Report.

Stock-based compensation – We recognize compensation expense related to employee stock option grants and other equity based awards, if any, in accordance with FASB ASC 718, *Compensation – Stock Compensation* ("ASC 718").

We estimate the fair value of employee stock-based payment awards on the grant-date and recognize the resulting fair value, net of estimated forfeitures for grants prior to 2017, over the requisite service period. Upon adoption of Accounting Standards Update ("ASU") 2016-09 on January 1, 2017, f orfeitures are accounted for as they occur instead of based on the number of awards that were expected to vest prior to adoption of ASU 2016-09.

We use the Black-Scholes option pricing model for estimating the fair value of options granted under our 2017 Equity Incentive Plan (the "Plan"). The fair value of each restricted stock or restricted stock unit grant, if any, is determined based on the value of the common stock granted or sold. We have elected to treat stock-based awards with time-based service conditions as a single award and recognize stock-based compensation on a straight-line basis over the requisite service period.

Compensation expense for non-employee stock-based awards is recognized in accordance with ASC 718 and FASB ASC 505-50, *Equity-Based Payments to Non-Employees* . Stock option awards issued to non-employees, principally consultants or outside contractors, as applicable, are accounted for at fair value using the Black-Scholes option pricing model. Management believes that the fair value of the stock options can more reliably be measured than the fair value of services received. We record compensation expense based on the then-current fair values of the stock options at each financial reporting date. Compensation expense recorded during the service period is adjusted in subsequent periods for changes in the fair value of the stock options until the earlier of the date at which the non-employee's performance is complete or a performance commitment is reached, which is generally when the stock option award vests. Compensation expense for non-employee grants is recorded on a straight-line basis in the consolidated statements of operations.

The Black-Scholes option pricing model requires us to make certain assumptions including the fair value of the underlying common stock, the expected term, the expected volatility, the risk-free interest rate and the dividend yield.

The fair value of the shares of common stock underlying the stock options has historically been determined by our Board of Directors. Because there was no public market for our common stock prior to November 29, 2018, our Board of Directors determined the fair value of the common stock at the time of the grant of options by considering a number of objective and subjective factors including contemporaneous sales of our common stock to investors, valuation of comparable companies, operating and financial performance and general and industry-specific economic outlook, amongst other factors. The fair value was determined in accordance with applicable elements of the practice aid issued by the American Institute of Certified Public Accountants titled *Valuation of Privately Held Company Equity Securities Issued as Compensation* . Since our common stock began publicly trading on the NYSE American, the fair value of our common stock underlying stock options has been valued based on prevailing market prices.

The expected term of employee stock options represents the weighted-average period that the stock options are expected to remain outstanding. We estimate the expected term of options granted based upon the "simplified method" provided under *Staff Accounting Bulletin, Topic 14* , or SAB Topic 14.

Because our common stock has no publicly traded history prior to November 29, 2018, for the year ended December 31, 2017 we estimated the expected volatility of the awards from the historical volatility of selected public companies within the biotechnology industry with comparable characteristics to us, including similarity in size, lines of business, market capitalization, revenue and financial leverage. We determined the expected volatility assumption using the frequency of daily historical prices of comparable public company's common stock for a period equal to the expected term of the options. For the year ended December 31, 2018, we estimated the expected volatility using its own stock price volatility to the extent applicable or a combination of our stock price volatility and the stock price volatility of stock of peer companies, for a period equal to the expected term of the options.

The risk-free interest rate assumption is based upon observed interest rates on the United States government securities appropriate for the expected term of our stock options.

The dividend yield assumption is based on our history and expectation of dividend payouts. We have never declared or paid any cash dividends on our common stock, and we do not anticipate paying any cash dividends in the foreseeable future.

All excess tax benefits and tax deficiencies from stock-based compensation awards accounted for under ASC 718 are recognized as an income tax benefit or expense, respectively, in the consolidated statements of operations. Prior to the adoption of ASU 2016-09, AgeX recognized excess tax benefits, if any, in additional paid-in capital only if the tax deduction reduced cash income taxes payable, and excess tax deficiencies were recognized as an offset to accumulated excess tax benefits, if any, on AgeX's consolidated statements of operations. An excess income tax benefit arises when the tax deduction of a share-based award for income tax purposes exceeds the compensation cost recognized for financial reporting purposes, and a tax deficiency arises when the compensation cost exceeds the tax deduction. Because AgeX had no stock option exercises during the years ended December 31, 2018 and 2017, and because of AgeX's full valuation allowance as of December 31, 2018 and 2017, there was no impact to AgeX's consolidated financial statements from the adoption of 2016-09.

Stock-based compensation expense for the years ended December 31, 2018 and 2017 consists of stock-based compensation under the AgeX 2017 Equity Incentive Plan, stock-based compensation allocated from BioTime, and stock-based compensation of AgeX's subsidiaries that have their own stock option plans.

As discussed above, certain of our consolidated subsidiaries have their own share-based compensation plans. For share-based compensation awards granted by those privately-held consolidated subsidiaries under their respective equity plans, we determine the fair value of the options granted under those plans using similar methodologies and assumptions we used for our stock options discussed above.

Although the fair value of stock options is determined in accordance with FASB guidance, changes in the assumptions and allocations can materially affect the estimated value and therefore the amount of compensation expense recognized in the consolidated financial statements.

Long-lived intangible assets – Long-lived intangible assets, consisting primarily of acquired patents, acquired in-process research and development ("IPR&D") with alternative future uses, patent applications, and licenses to use certain patents, are stated at acquired cost, less accumulated amortization. Amortization expense is computed using the straight-line method over the estimated useful lives of the assets, generally over 10 years.

Impairment of long-lived assets – Long-lived assets, including long-lived intangible assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be fully recoverable. If an impairment indicator is present, we evaluate recoverability by a comparison of the carrying amount of the assets to future undiscounted net cash flows expected to be generated by the assets. If the assets are impaired, the impairment recognized is measured by the amount by which the carrying amount exceeds the estimated fair value of the assets. Through December 31, 2018, there have been no such impairment losses.

Adoption of ASU 2014-09, Revenues from Contracts with Customers (Topic 606). During May 2014, the FASB issued ASU 2014-09 ("Topic 606") *Revenue from Contracts with Customers* which supersedes the revenue recognition requirements in Topic 605 *Revenue Recognition* ("Topic 605"). Topic 606 describes principles an entity must apply to measure and recognize revenue and the related cash flows, using the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligation(s) in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. Topic 606 core principle is that it requires entities to recognize revenue when control of the promised goods or services is transferred to customers at an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services.

We adopted Topic 606 as of January 1, 2018 using the modified retrospective transition method applied to those contracts which were not completed as of the adoption date. Results for reporting periods beginning on January 1, 2018 and thereafter are presented under Topic 606, while prior period amounts are not adjusted and continue to be reported in accordance with our historic revenue recognition accounting under Topic 605.

On January 1, 2018, the impact of the adoption and application of Topic 606 was immaterial, and no cumulative effect adjustment was made as of that date. In the applicable paragraphs below, we have summarized our revenue recognition policies for various revenue sources in accordance with Topic 606.

Subscription and advertisement revenues . LifeMap Sciences, our direct majority-owned subsidiary, sells subscription-based products, including research databases and software tools, for biomedical, gene, and disease research. LifeMap Sciences sells these subscriptions primarily through the internet to biotech and pharmaceutical companies worldwide. LifeMap Sciences' principal subscription product is the *GeneCards* ® Suite, which includes the *GeneCards* ® human gene database, and the *MalaCards* human disease database.

LifeMap Sciences' performance obligations for subscriptions include a license of intellectual property related to its genetic information packages and premium genetic information tools. These licenses are deemed functional licenses that provide customers with a "right to access" to LifeMap Sciences' intellectual property during the subscription period and, accordingly, revenue is recognized over a period of time, which is generally the subscription period. Payments are typically received at the beginning of a subscription period and revenue is recognized according to the type of subscription sold.

For subscription contracts in which the subscription term commences before a payment is due, LifeMap Sciences records an accounts receivable as the subscription is earned over time and bills the customer according to the contract terms. LifeMap Sciences continuously monitors collections and payments from customers and maintains a provision for estimated credit losses and uncollectible accounts based upon its historical experience and any specific customer collection issues that have been identified. Amounts determined to be uncollectible are written off against the allowance for doubtful accounts. LifeMap Sciences has not historically provided significant discounts, credits, concessions, or other incentives from the stated price in the contract as the prices are offered on a fixed fee basis for the type of subscription package being purchased. LifeMap Sciences may issue refunds only if the packages cease to be available for reasons beyond its control. In such an event, the customer will get a refund on a pro-rata basis. Both the customer and LifeMap Sciences expect the subscription packages to be available during the entire subscription period, and LifeMap Sciences has not experienced any significant issues with the availability of the product and has not issued any material refunds. Using the most likely amount method for estimating refunds under Topic 606, including historical experience, LifeMap Sciences determined that the single most likely amount of variable consideration for refunds is immaterial as LifeMap Sciences does not expect to pay any refunds.

LifeMap Sciences performance obligations for advertising are overall advertising services and represent a series of distinct services. Contracts are typically less than a year in duration and the fees charged may include a combination of fixed and variable fees with the variable fees tied to click throughs to the customer's products on their website. LifeMap Sciences allocates the variable consideration to each month the click through services occur and allocates the annual fee to the performance obligation period of the initial term of the contract because those amounts correspond to the value provided to the customer each month. For click-through advertising services, at the time the variable compensation is known and determinable, the service has been rendered and revenue is recognized at that time.

LifeMap Sciences deferred subscription revenues primarily represent subscriptions for which cash payment has been received for the subscription term, but the subscription term has not been completed as of the balance sheet date reported. For the years ended December 31, 2018 and 2017, LifeMap Sciences recognized $1.2 million and $1.4 million in subscription and advertisement revenues. As of December 31, 2018, there was $0.3 million included in deferred revenues in the consolidated balance sheets which is expected to be recognized as subscription revenue over the next twelve months.

LifeMap Sciences has licensed from third parties the databases and software it commercializes and has a contractual obligation to pay royalties to the licensor on subscriptions sold. These costs are included in cost of sales on the consolidated statements of operations when the cash is received and the royalty obligation is incurred as the royalty payments do not qualify for capitalization of costs to fulfill a contract under ASC 340-40, *Other Assets and Deferred Costs - Contracts with Customers* .

Grant revenues . In applying the provisions of Topic 606, we have determined that government grants are out of the scope of Topic 606 because the government entities do not meet the definition of a "customer", as defined by Topic 606, as there is not considered to be a transfer of control of good or services to the government entities funding the grant. We have, and will continue to, account for grants received to perform research and development services in accordance with ASC 730-20, *Research and Development Arrangements* , which requires an assessment, at the inception of the grant, of whether the grant is a liability or a contract to perform research and development services for others. If we or a subsidiary receiving the grant are obligated to repay the grant funds to the grantor regardless of the outcome of the research and development activities, then we are required to estimate and recognize that liability. Alternatively, if we or a subsidiary receiving the grant are not required to repay, or if we are required to repay the grant funds only if the research and development activities are successful, then the grant agreement is accounted for as a contract to perform research and development services for others, in which case, grant revenue is recognized when the related research and development expenses are incurred.

In September 2018, we were awarded a grant of up to approximately $225,000 from the NIH. The NIH grant provides funding for continued development of our technologies for treating osteoporosis. The grant funds will be made available to AgeX by the NIH as allowable expenses are incurred. For the year ended December 31, 2018, we incurred approximately $20,000 of allowable expenses under the NIH grant and recognized corresponding grant revenues for that period.

On April 5, 2018, our subsidiary ReCyte Therapeutics was awarded a grant of up to approximately $386,000 from the NIH. The NIH grant provides funding for continued development of our technologies for treating stroke. The grant funds will be made available to ReCyte Therapeutics by the NIH as allowable expenses are incurred. As of December 31, 2018, ReCyte Therapeutics had not incurred any allowable expenses or recognized any grant revenues under the NIH grant.

Arrangements with multiple performance obligations . Future contracts with customers may include multiple performance obligations. For such arrangements, we will allocate revenue to each performance obligation based on its relative standalone selling price. We will generally determine or estimate standalone selling prices based on the prices charged, or that would be charged, to customers for that product or service. As of, and for the year ended, December 31, 2018, we did not have significant arrangements with multiple performance obligations.

Financial Operations Overview

To date, o ur revenues have been principally derived from subscription and advertising revenue from LifeMap Sciences' online databases based upon applicable subscription or advertising periods. We do not have any products approved for sale and have not generated any revenue from commercialized product sales, and we do not expect to generate any revenue from product sales for the foreseeable future.

Our operating expenses consist of research and development expenses primarily from our pre-clinical programs and general and administrative expenses, including a significant amount of operating expenses allocated to us from BioTime, either incurred directly for our benefit or indirect overhead costs, as described under "—Critical Accounting Policies."

We expect to continue to incur significant expenses and operating losses over the next several years. We anticipate that our expenses will increase significantly in connection with our ongoing activities, if we:

- commence clinical development of our product candidates;
- continue activities to discover, validate and develop additional product candidates;
- maintain, expand and protect our intellectual property portfolio;
- hire research, development and general and administrative personnel as we begin operations as a standalone, publicly-traded company;
- enter into our own leases for laboratory and administrative facilities; and
- incur additional costs associated with operating as a public company.

Results of Operations

Comparison of Years Ended December 31, 2018 and 2017

Revenues and Cost of Sales

The amounts in the table below show our consolidated revenues by source and cost of sales for the years ended December 31, 2018 and 2017 (in thousands).

	Year Ended December 31,		$ Increase/	% Increase
	2018	2017	(Decrease)	(Decrease)
Subscription and advertising revenues	$ 1,227	$ 1,399	$ (172)	(12.3%)
Service and other revenues	149	5	144	*%
Grant revenues	20	-	20	*%
Total revenues	1,396	1,404	(8)	(0.6%)
Cost of sales	(364)	(168)	196	116.7%
Gross profit	$ 1,032	$ 1,236	$ (204)	(16.5%)

* Not meaningful.

Our revenues were primarily generated by LifeMap Sciences, as subscription and advertising revenues from its *GeneCards* ® online database. Subscription and advertising revenues amounted to $1.2 million and $1.4 million for the years ended December 31, 2018 and 2017. During the year ended December 31, 2018, LifeMap Sciences also generated $115,000 of revenues from performing services under contracts, which we do not expect will be recurring revenues for LifeMap Sciences, while service revenues were insignificant during 2017.

During 2018 we recognized income of approximately $20,000 from a grant from the NIH . We had no grant revenue in 2017.

Cost of sales for the year ended December 31, 2018 as compared to 2017 increased primarily due to an increase in the royalty payments made or incurred by LifeMap Sciences due to a long-term increase in the royalty rate for its subscriptions products and due to the timing of cash received and the related royalty obligation incurred.

Operating Expenses

The following table shows our consolidated operating expenses for the years ended December 31, 2018 and 2017 (in thousands).

	Year Ended December 31,		$ Increase/	% Increase/
	2018	2017	(Decrease)	(Decrease)
Research and development expenses	$ 5,830	$ 5,784	$ 46	0.8%
Acquired in-process research and development	800	-	800	*%
General and administrative expenses	5,647	3,869	1,778	46.0%

* Not meaningful.

Research and development expenses

Research and development expenses and acquired IPR&D increased by $0.8 million to $6.6 million in 2018 as compared to $5.8 million in 2017. The increase was primarily attributable to an increase of $0.5 million for programs utilizing *PureStem* ® cell lines and iTR technology. Additionally, on March 23, 2018, we purchased certain in-process research and development assets, primarily related to stem cell derived cardiomyocytes (heart muscle cells) to be developed by us, for a total cash consideration of $0.8 million. The transaction was considered an asset acquisition rather than a business combination. Accordingly, the $0.8 million was expensed on the acquisition date as acquired in-process research and development as those assets have no alternative future uses. These increases were partially offset by t he LifeMap Sciences' disposition of its ownership of LifeMap Solutions which accounted for $0.5 million of the decrease in research and development expenses as shown in the table below.

The following table shows the amounts and percentages of our total research and development expenses of $6.6 million and $5.8 million, including acquired in-process research and development incurred during 2018, allocated to our primary research and development programs, during the years ended December 31, 2018 and 2017, respectively (amounts in thousands).

		Year Ended December 31,			
		Amount (1)		Percent of Total	
Company	Program	2018	2017	2018	2017
AgeX including ReCyte Therapeutics (2)	*PureStem* ® progenitor cell lines, brown adipose fat, iTR technology, and pre-clinical cardiovascular therapy research and development	$ 4,343	$ 3,763	65.5%	65.0%
AgeX	Acquired in-process research and development	800	-	12.1%	-%
LifeMap Sciences (3)	Biomedical, gene, and disease databases and tools	1,487	1,548	22.4%	26.8%
LifeMap Solutions (4)	Mobile health co-developed software application	-	473	-%	8.2%
Total research and development expenses and acquired IPR&D		$ 6,630	$ 5,784	100.0%	100.0%

(1) Amount includes research and development expenses incurred both directly by us or the named subsidiary and indirect overhead costs allocated by BioTime that benefit or support our research and development programs. Direct research and development expenses attributable to us also include allocations for carve-out presentation purposes from certain former BioTime general research departments contributed to us primarily comprised of former BioTime personnel and related expenses, including stock-based compensation, transferred to us, and other outside expenses relevant to the nature of the research projects being conducted that were contributed to us pursuant to the Asset Contribution Agreement described in Note 4 to our consolidated financial statements. Amount also includes indirect expenses allocated from BioTime for certain general research and development expenses, such as lab supplies, lab expenses, rent and insurance allocated to research and development expenses, incurred directly by BioTime on behalf of the subsidiary and allocated to the subsidiary. See Notes 2 and 4 to our consolidated financial statements included elsewhere in this Report.

(2) Includes approximately $185,000 and $769,000 from ReCyte Therapeutics for the years ended December 31, 2018 and 2017, respectively.

(3) LifeMap Sciences is a subsidiary of AgeX. See Notes 2 and 4 to our consolidated financial statements included elsewhere in this Report.

(4) LifeMap Solutions was transferred to BioTime on June 6, 2017 and subsequently ceased conducting its mobile health co-developed software application business and was dissolved.

General and administrative expenses

The following table shows the amount and percentages of our consolidated general and administrative expenses of $5.6 million and $3.9 million incurred during the years ended December 31, 2018 and 2017, respectively (amounts in thousands).

	Year Ended December 31,			
	Amount [1]		Percent of Total	
Company	2018	2017	2018	2017
AgeX including ReCyte Therapeutics	$ 4,803	$ 2,819	85.1%	72.9%
LifeMap Sciences [2]	844	569	14.9%	14.7%
LifeMap Solutions [3]	-	481	-%	12.4%
Total general and administrative expenses	$ 5,647	$ 3,869	100.0%	100.0%

(1) Amount includes both direct expenses incurred by us or the named subsidiary and indirect overhead costs allocated by BioTime that benefit or support our general and administrative functions. Direct general and administrative expenses attributable to us also include allocations from certain BioTime general and administrative expenses, including allocated stock-based compensation, for carve-out presentation purposes of our consolidated statements of operations. These allocations are principally based on the historical general and administrative functions and expenses relevant to BioTime and our subsidiaries that operated prior to and after our formation during the periods presented. Amount also includes indirect general and administrative expenses allocated by BioTime to us under the Shared Facilities Agreement. See Notes 2 and 4 to our consolidated financial statements included in this Report.

(2) LifeMap Sciences is a subsidiary of AgeX. See Notes 2 and 4 to our consolidated financial statements included in this Report.

(3) LifeMap Solutions was transferred to BioTime on June 6, 2017 and subsequently ceased conducting its mobile health co-developed software application business and was dissolved.

General and administrative expenses for the year ended December 31, 2018 increased by $1.7 million to $5.6 million as compared to $3.9 million in 2017. This increase was primarily attributable to the following: $0.7 million in financial reporting, compliance, legal and other expenses related to our preparation and filing of a registration statement on Form 10 to become a public company; $0.4 million in consulting, travel and related expenses; and $1.0 million increase in noncash stock-based compensation expense. Since our Equity Incentive Plan was established in July 2017 and, based on the timing of our stock option grants occurring during the latter half of 2017, our stock-based compensation expense was significantly higher in 2018. These increases were partially offset by approximately $0.5 million of cost savings after June 6, 2017, resulting from LifeMap Sciences' disposition of its ownership of LifeMap Solutions as noted in the table above.

Gain on sale of equity method investment in Ascendance

On March 23, 2018 Ascendance Biotechnology, Inc. ("Ascendance"), a company in which we held shares of common stock accounted for on the equity method, was acquired by a third party in a merger and we received $3.2 million in cash for our Ascendance common stock. We recognized a gain on sale for the same amount included in other income and expenses, net, during the year ended December 31, 2018.

Gain on sale of assets

Loss from operations for the year ended December 31, 2017 includes a $1.8 million gain we recognized on the sale of certain co-developed assets by LifeMap Solutions to its customer prior to the transfer of LifeMap Solutions to BioTime on June 6, 2017.

Income taxes

For Federal and California purposes, our activity through August 30, 2018 and for 2017 will be or was included in BioTime's federal consolidated and California combined tax returns. For these periods, the provision for income taxes has been presented as if we had filed a separate federal consolidated tax return and a California combined tax return using the separate return method.

As of December 31, 2018, we had net operating loss carryforwards of approximately $31.5 million for U.S. federal income tax purposes. Of this amount, $8.7 million is attributable to LifeMap Sciences, which includes $2.1 million in NOLs generated while it was included in the consolidated BioTime tax group and would be available to offset income of AgeX in the future. The remaining LifeMap Sciences NOLs of $6.6 million are attributable to NOLs generated for the tax years during which LifeMap Sciences filed a separate federal income tax return and, accordingly, those NOLs are available only to LifeMap Sciences' taxable income within AgeX in future years. In general, NOLs and other tax credit carryforwards generated by legal entities in a consolidated federal tax group are available to other members of the tax group depending on the nature of the transaction that a member may enter into while still in the consolidated federal tax group. However, under the Tax Matters Agreement between BioTime and AgeX, any use of a member's NOLs and other tax credit carryforwards by the other member is subject to reimbursement by the benefiting member for the actual tax benefit realized. Since the August 30, 2018 deconsolidation of AgeX, and to date, neither BioTime nor AgeX has used the tax attributes of the other.

On June 6, 2017, BioTime and LifeMap Sciences entered into a Debt Conversion Agreement whereby BioTime acquired additional stock in LifeMap Sciences and other assets, including intellectual property and direct ownership of LifeMap Solutions in exchange for settlement of related party indebtedness of approximately $8.8 million owed to BioTime. These transactions occurred between commonly controlled entities, including noncontrolling interests, and the financial reporting impact is discussed in Note 4 to our consolidated financial statements included elsewhere in this Report. For income tax purposes, the purchase by BioTime of LifeMap Sciences' intellectual property and other assets resulted in a taxable gain to LifeMap Sciences of $3.7 million for the year ended December 31, 2017. Although LifeMap Sciences had sufficient current year operating losses and regular net operating loss carryforwards to offset the entire gain, it incurred a federal alternative minimum tax payable ("AMT") of $22,000 as of December 31, 2017. As LifeMap Sciences will ultimately receive a full refund of the current AMT payable, fully offsetting the current provision, there is no tax provision or benefit recorded for the year ended December 31, 2017.

As of December 31, 2018, we had net operating losses of approximately $32.5 million for California purposes. As we and our subsidiaries have been included in the combined California tax return with BioTime, up to the date of deconsolidation on August 30, 2018, those state net operating losses will remain with AgeX.

Federal net operating losses generated on or prior to December 31, 2017, expire in varying amounts between 2030 and 2037, while federal net operating losses generated after December 31, 2017, carryforward indefinitely. The state net operating losses expire in varying amounts between 2028 and 2038.

As of December 31, 2018, AgeX had research and development tax credit carryforwards for federal and state tax purposes of $903,000 and $831,000, respectively. Although this LifeMap Sciences credit has been included as part of the AgeX credit carryforwards, LifeMap Sciences filed a separate federal income tax return prior to January 1, 2018 and its prior research credit carryforwards may not be used to offset federal taxable income of AgeX. As AgeX and its subsidiaries were included in the California combined return with BioTime, these credits noted above will remain with AgeX. The federal tax credits expire between 2028 and 2038 , while the state tax credits have no expiration date.

A valuation allowance is provided when it is more likely than not that some or all of the deferred tax assets will not be realized. We established a full valuation allowance for all periods presented due to the uncertainty of realizing future tax benefits from our net operating loss carryforwards and other deferred tax assets. Accordingly, d ue to losses incurred for all periods presented, we did not record any provision or benefit for income taxes.

Liquidity and Capital Resources

Since inception, we have financed our operations through contributions and advances from our former parent company, BioTime, the sale of our common stock, the sale and exercise of warrants, and research grants. BioTime has also provided us with the use of BioTime facilities and services under the Shared Facilities Agreement. Although BioTime may continue to provide administrative support to us on a reimbursable basis, we do not expect BioTime will provide us future financing. We have incurred operating losses and negative cash flows since inception and had an accumulated deficit of $74.1 million as of December 31, 2018. We expect to continue to incur operating losses and negative cash flows.

We expect our expenses to increase in the near term in connection with our ongoing activities, including costs related to our planned move to a new office and laboratory facility in Alameda, California under a sublease from a third party that will replace our use of BioTime's facilities. We will also incur additional costs if we hire our internal administrative personnel and rely less on services provided by BioTime under the terms of the Shared Facilities Agreement. Furthermore, now that we are a public company, we will incur additional costs associated with operating as a public company. In the longer term, we expect our expenses to increase as we continue our pre-clinical research and development activities and, if we initiate clinical trials and seek marketing approval for our product candidates. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution to the extent that such sales, marketing and distribution are not the responsibility of potential collaborators. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations.

We have evaluated our projected cash flows and believe that our cash and cash equivalents of $6.7 million as of December 31, 2018, plus the $4.5 million we received from the exercise of Warrants during March 2019, provide sufficient cash, cash equivalents, and liquidity to carry out our current operations through at least twelve months from the issuance date of the consolidated financial statements included elsewhere in this Report. However, it is likely that we will need to raise additional capital in the near term to be able to meet our operating expenses beyond that twelve month period. The amount of our future capital requirements will depend on many factors. In the near term these factors will include:

- the scope, progress, results and costs of research and development work on product candidates;
- the scope, prioritization and number of our research and development programs we conduct;
- our ability to establish and maintain collaborations on favorable terms, if at all;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;
- the costs of entering into and maintaining our own leases for laboratory and administrative facilities and equipment; and
- the cost of employing our own administrative personnel rather than relying on services provided by BioTime or Juvenescence.

We do not have any committed sources of funds for additional financing and we cannot assure that we will be able to raise additional financing on favorable terms or at all. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our present stockholders will be diluted, and the terms of any securities we issue may include liquidation or other preferences that adversely affect their rights as common stockholders. 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, and may involve the issuance of convertible debt or stock purchase warrants that would dilute the equity interests of our stockholders. If we raise funds through additional strategic partnerships or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us.

If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce or eliminate our research and development programs.

Cash used in operating activities

For the year ended December 31, 2018, our total research and development expenses, including acquired in-process research and development expenses were $6.6 million and our general and administrative expenditures were $5.6 million. Net loss attributable to us for the years ended December 31, 2018 amounted to $7.5 million. Net cash used in operating activities during this period amounted to $8.0 million. The difference between the net loss attributable to us and net cash used in operating activities during the year ended December 31, 2018 was primarily attributable to the following noncash items: $3.2 million gain on the disposition of our ownership of Ascendance common stock offset to some extent by $0.8 million for acquired in-process research and development expense, $1.5 million in stock-based compensation expense, $0.5 million in amortization of intangible assets and depreciation expense, and $0.2 million in net loss attributable to noncontrolling interest. Changes in working capital impacted our cash used in operations by $0.2 million as a net source of cash.

Cash provided by investing activities

During the year ended December 31, 2018, net cash provided by investing activities was $1.3 million. The primary component of this amount was $3.2 million in proceeds from the disposition of our ownership of Ascendance common stock, offset by a $1.1 million payment to Escape Therapeutics and a $0.8 million payment to Ascendance for the acquisition of in-process research and development assets.

Cash provided by financing activities

During the year ended December 31, 2018, net cash provided by financing activities amounted to $6.0 million, including $5.0 million of proceeds from the issuance of common stock and $1.0 million of proceeds from the issuance of the AgeX Warrants.

Contractual obligations

We had no contractual obligations as of December 31, 2018, with the exception of the Shared Facilities Agreement. Under the terms of the Shared Facilities Agreement, BioTime will allow us to use its premises and equipment located at Alameda, California for the purpose of conducting our business. BioTime may also provide accounting, billing, bookkeeping, payroll, treasury, payment of accounts payable, and other similar administrative services. BioTime may also provide the services of attorneys, accountants, and other professionals who may also provide professional services to BioTime and its other subsidiaries. BioTime may also provide us with the services of its laboratory and research personnel, including BioTime employees and contractors, for the performance of our research and development work at the premises.

BioTime charges us a "Use Fee" for services received and usage of facilities, equipment, and supplies. For each billing period, BioTime prorates and allocates costs incurred, as applicable, to us, such costs include services of BioTime employees, equipment, insurance, lease, professional, software, supplies and utilities. Allocation depends on key cost drivers including actual documented use, square footage of facilities used, time spent, costs incurred by or for our benefit, or upon proportionate usage by BioTime and us, as reasonably estimated by BioTime (collectively "Use Fees"). BioTime, at its discretion, has the right to charge us a 5% markup on such allocated costs and BioTime has charged this markup since the inception of the Shared Facilities Agreement. The allocated cost of BioTime employees and contractors who provide services is based upon records maintained of the number of hours or percentage of time of such personnel devoted to the performance of services.

The Shared Facilities Agreement will remain in effect from year to year, unless (a) either party gives the other party written six months' notice to terminate, which BioTime may not give to AgeX prior to September 1, 2020, or (b) the agreement is otherwise terminated under another provision of the agreement. BioTime's lease expires on January 31, 2023.

The minimum fixed payments due under the Shared Facilities Agreement are approximately $150,000 per month.

We plan to terminate our use of BioTime's office and laboratory facilities under the Shared Facilities Agreement if the Preconditions to the sublease of our proposed new New Facility are met, or if we locate and lease an alternative office and laboratory facility.

Off-Balance Sheet Arrangements

As of December 31, 2018, we did not have any off-balance sheet arrangements, as defined in Item 303(a) (4) (ii) of SEC Regulation S-K.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Not applicable.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Stockholders and Board of Directors
AgeX Therapeutics, Inc.
Alameda, California

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of AgeX Therapeutics, Inc. (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive loss, stockholders' equity (deficit), and cash flows for each of the two years in the period ended December 31, 2018, 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, 2018 and 2017, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2018 **,** in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

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

/s/ OUM & CO. LLP

San Francisco, California
April 1, 2019
We have served as the Company's auditor since 2017.

Item 8. Financial Statements and Supplementary Data

AGEX THERAPEUTICS, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(*In thousands, except par value amounts*)

	December 31,	
	2018	**2017**
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 6,707	$ 7,375
Accounts and grants receivable, net	131	107
Prepaid expenses and other current assets	1,015	111
Total current assets	7,853	7,593
Equipment and furniture, net	90	129
Deposits and other long-term assets	19	35
Intangible assets, net	2,709	1,874
TOTAL ASSETS	$ 10,671	$ 9,631
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES		
Accounts payable and accrued liabilities	$ 1,416	$ 768
Related party payables to BioTime and Juvenescence	82	210
Deferred revenues	317	180
Other current liabilities	625	154
TOTAL LIABILITIES	2,440	1,312
Commitments and contingencies (Note 8)		
STOCKHOLDERS' EQUITY		
Preferred stock, $0.0001 par value, authorized 5,000 shares; none issued and outstanding as of December 31, 2018 and 2017	-	-
Common stock, $0.0001 par value, 100,000 shares authorized; 35,830 and 33,750 shares issued and outstanding as of December 31, 2018 and 2017, respectively	4	3
Additional paid-in capital	81,499	73,761
Accumulated other comprehensive income (loss)	(2)	68
Accumulated deficit	(74,054)	(66,552)
AgeX Therapeutics, Inc. stockholders' equity	7,447	7,280
Noncontrolling interest	784	1,039
Total stockholders' equity	8,231	8,319
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 10,671	$ 9,631

See accompanying notes to the consolidated financial statements.

AGEX THERAPEUTICS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share data)

	Year Ended December 31,	
	2018	**2017**
REVENUES:		
Subscription and advertisement revenues	$ 1,227	$ 1,399
Service and other revenues	149	5
Grant revenues	20	-
Total revenues	1,396	1,404
Cost of sales	(364)	(168)
Gross profit	1,032	1,236
OPERATING EXPENSES:		
Research and development	(5,830)	(5,784)
Acquired in-process research and development	(800)	-
General and administrative	(5,647)	(3,869)
Total operating expenses	(12,277)	(9,653)
Gain on sale of assets	-	1,754
Loss from operations	(11,245)	(6,663)
OTHER INCOME/(EXPENSES):		
Interest income (expense), net	116	(12)
Gain on sale of equity method investment in Ascendance	3,215	-
Other income, net	183	38
Total other income, net	3,514	26
NET LOSS	(7,731)	(6,637)
Net loss attributable to noncontrolling interest	229	57
NET LOSS ATTRIBUTABLE TO AGEX	$ (7,502)	$ (6,580)
NET LOSS PER COMMON SHARE: BASIC AND DILUTED	$ (0.21)	$ (0.21)
WEIGHTED AVERAGE NUMBER OF COMMON SHARES OUTSTANDING: BASIC AND DILUTED	34,914	30,644

See accompanying notes to the consolidated financial statements.

AGEX THERAPEUTICS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(In thousands)

	Year Ended December 31,	
	2018	**2017**
NET LOSS	$ (7,731)	$ (6,637)
Other comprehensive expense, net of tax:		
Foreign currency translation adjustments	(70)	10
COMPREHENSIVE LOSS	(7,801)	(6,627)
Less: Comprehensive loss attributable to noncontrolling interest	229	57
COMPREHENSIVE LOSS ATTRIBUTABLE TO AGEX	$ (7,572)	$ (6,570)

See accompanying notes to the consolidated financial statements.

AGEX THERAPEUTICS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)
(In thousands)

	Common Stock		Additional			Accumulated Other Comprehensive	Total Stockholders'
	Number of Shares	Par Value	Paid-In Capital	Accumulated Deficit	Noncontrolling Interest	Income/ (Loss)	Equity/ (Deficit)
BALANCE AT DECEMBER 31, 2016	28,800	$ 3	$ 36,492	$ (59,972)	$ 1,044	$ 58	$ (22,375)
Cancellation of related party payable to BioTime by ReCyte Therapeutics	-	-	11,177	-	-	-	11,177
Issuance of AgeX option for BioTime common stock	-	-	100	-	-	-	100
Issuance of common stock to investors other than BioTime	4,934	-	9,868	-	-	-	9,868
Issuance of common stock to BioTime	16	-	32	-	-	-	32
Settlement of related party payables to BioTime by LifeMap Sciences and LifeMap Solutions for common stock and certain assets, including $4.4 million gain on transfer of LifeMap Solutions to BioTime and proportional equity transfer from noncontrolling interest	-	-	13,398	-	(175)	-	13,223
Contributions from BioTime	-	-	2,169	-	-	-	2,169
Stock-based compensation allocated from BioTime	-	-	411	-	-	-	411
Stock-based compensation	-	-	114	-	-	-	114
Stock-based compensation in subsidiaries	-	-	-	-	227	-	227
Foreign currency translation adjustment	-	-	-	-	-	10	10
Net loss	-	-	-	(6,580)	(57)	-	(6,637)
BALANCE AT DECEMBER 31, 2017	33,750	3	73,761	(66,552)	1,039	68	8,319
Sale of shares of common stock	2,000	1	4,999	-	-	-	5,000
Issuance of shares to acquire in-process research and development	80	-	240	-	-	-	240
Sale of warrants	-	-	1,000	-	-	-	1,000
Stock-based compensation allocated from BioTime	-	-	184	-	-	-	184
Stock-based compensation	-	-	1,285	-	-	-	1,285
Stock-based compensation in subsidiaries	-	-	-	-	4	-	4
Transactions with noncontrolling interests	-	-	30	-	(30)	-	-
Foreign currency translation adjustment	-	-	-	-	-	(70)	(70)
Net loss	-	-	-	(7,502)	(229)	-	(7,731)
BALANCE AT DECEMBER 31, 2018	35,830	$ 4	$ 81,499	$ (74,054)	$ 784	$ (2)	$ 8,231

See accompanying notes to the consolidated financial statements.

AGEX THERAPEUTICS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31,	
	2018	**2017**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss attributable to AgeX	$ (7,502)	$ (6,580)
Net loss attributable to noncontrolling interest	(229)	(57)
Adjustments to reconcile net loss attributable to AgeX to net cash used in operating activities:		
Gain on sale of equity method investment in Ascendance	(3,215)	-
Acquired in-process research and development	800	
Depreciation expense	58	165
Amortization of intangible assets	477	517
Amortization of deferred license fees	-	17
Gain on sale of assets	-	(1,754)
Stock-based compensation	1,285	114
Stock-based compensation allocated from BioTime	184	411
Subsidiary stock-based compensation	4	227
Bad debt expense	-	(121)
Foreign currency remeasurement gain and other	(68)	-
Changes in operating assets and liabilities:		
Accounts receivable and other receivables	(24)	322
Prepaid expenses and other current assets	(293)	10
Accounts payable and accrued liabilities	648	267
Related party payable to BioTime	(128)	-
Deferred revenues	137	(84)
Other	(129)	261
Net cash used in operating activities	(7,995)	(6,285)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Proceeds from the sale of equity method investment in Ascendance	3,215	-
Purchase of in-process research and development	(1,872)	-
Purchase of equipment and other assets	(21)	(1)
Removal of cash upon deconsolidation of LifeMap Solutions	-	(3)
Security deposit received and other, net	5	9
Net cash provided by investing activities	1,327	5
CASH FLOWS FROM FINANCING ACTIVITIES:		
Contributions from BioTime	-	1,971
Advances from BioTime	-	1,304
Proceeds from sale of common stock	5,000	10,000
Proceeds from sale of warrants	1,000	-
Net cash provided by financing activities	6,000	13,275
Effect of exchange rate changes on cash and cash equivalents	-	121
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(668)	7,116
CASH AND CASH EQUIVALENTS:		
Beginning of year	7,375	259
End of year	$ 6,707	$ 7,375
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:		
Cash paid during year for interest	$ 11	$ 9
SUPPLEMENTAL SCHEDULE OF NONCASH FINANCING AND INVESTING ACTIVITIES:		
Issuance of common stock for acquired in progress research and development with alternative future uses	$ 240	$ -
Settlement of related party payable due to BioTime by LifeMap Sciences and LifeMap Solutions in exchange for common stock, certain assets, and transfer of LifeMap Solutions to BioTime, including proportional equity transfer from noncontrolling interest (see Notes 1 and 4)	-	13,223
Cancellation of related party payable due to BioTime by ReCyte Therapeutics (see Note 4)	-	11,177

See accompanying notes to the consolidated financial statements.

1. Organization, Basis of Presentation and Liquidity

AgeX Therapeutics, Inc. ("AgeX") was incorporated in January 2017 in the state of Delaware as a subsidiary of BioTime, Inc. ("BioTime"), a publicly traded, clinical-stage biotechnology company developing new cellular therapies for degenerative retinal diseases, neurological conditions associated with demyelination, and aiding the body in detecting and combating cancer.

AgeX is a biotechnology company focused on the development and commercialization of novel therapeutics targeting human aging . AgeX's initial discovery and pre-clinical programs focus on utilizing brown adipose tissue ("brown fat") in targeting diabetes, obesity, and heart disease; and induced tissue regeneration ("iTR") in utilizing the human body's own abilities to scarlessly regenerate tissue damaged from age or trauma . AgeX may also pursue other early-stage pre-clinical programs. AgeX is an "emerging growth company" as defined in the Jumpstart our Business Startups Act of 2012.

On August 17, 2017, AgeX completed an asset acquisition and stock sale pursuant to which it received certain assets from BioTime for use in its research and development programs and raised $10.0 million in cash from investors to finance its operations. This capitalization of AgeX has allowed it to focus its resources on its pre-clinical programs (see Notes 4 and 9).

On February 28, 2018, AgeX sold warrants to purchase 1,473,600 shares of AgeX common stock (the "Warrants") for $0.50 per warrant for aggregate cash proceeds to AgeX of $736,800. On July 10, 2018, AgeX sold additional Warrants to purchase 526,400 shares of common stock for $0.50 per warrant for aggregate net cash proceeds to AgeX of $263,200. The Warrants were exercisable at $2.50 per share (see Note 9 concerning the exercise and expiration of the Warrants).

On June 7, 2018, AgeX sold 2.0 million shares of common stock to Juvenescence Limited ("Juvenescence") for $2.50 per share for aggregate cash proceeds to AgeX of $5.0 million.

BioTime's sale of significant ownership interest in AgeX to Juvenescence – On August 30, 2018, BioTime consummated the sale of 14,400,000 shares of common stock of AgeX owned by BioTime to Juvenescence. Prior to the transaction, Juvenescence owned 5.6% of AgeX's issued and outstanding common stock. Upon completion of the transaction, BioTime's ownership in AgeX was reduced from 80.4% to 40.2% of AgeX's issued and outstanding shares of common stock, and Juvenescence's ownership in AgeX was increased from 5.6% to 45.8% of AgeX's issued and outstanding shares of common stock. AgeX did not receive any proceeds from the transaction.

On August 30, 2018, AgeX ceased to be a subsidiary of BioTime because on that date, BioTime experienced a "loss of control" of a subsidiary, as defined by generally accepted accounting principles in the U.S. ("GAAP"). Loss of control is deemed to have occurred when, among other things, a parent company owns less than a majority of the outstanding common stock in the subsidiary, lacks a controlling financial interest in the subsidiary and, is unable to unilaterally control the subsidiary through other means such as having, or being able to obtain, the power to elect a majority of the subsidiary's Board of Directors based solely on contractual rights or ownership of shares holding a majority of the voting power of the subsidiary's voting securities. All of these loss-of-control factors were present with respect to BioTime's ownership interest in AgeX as of August 30, 2018. Accordingly, BioTime deconsolidated AgeX's consolidated financial statements and results from its consolidated financial statements and results beginning on August 30, 2018.

On November 28, 2018 (the "Distribution Date"), BioTime owned 14,416,000 shares of AgeX common stock, representing approximately 40.2% of the shares of the common stock issued and outstanding on the Distribution Date. On the Distribution Date, BioTime distributed to its shareholders, on a pro rata basis, 12,697,028 shares of the AgeX common stock it then held (the "Distribution"). Immediately after the Distribution, BioTime retained 1,718,972 shares of AgeX common stock, representing approximately 4.8% of the common stock then issued and outstanding. Following the Distribution, AgeX common stock began publicly trading on the NYSE American under the symbol "AGE" (see Notes 4, 7 and 9).

Liquidity – Since inception, AgeX has financed its operations through contributions and advances from its former parent company, BioTime, the sale of its common stock and warrants, exercises of warrants (see Notes 4, 5 and 9), and research grants. BioTime has also provided AgeX with the use of BioTime facilities and services under a Shared Facilities and Services Agreement as described in Note 4. Although BioTime may continue to provide administrative support to AgeX on a reimbursable basis, AgeX does not expect BioTime to provide future financing. AgeX has incurred operating losses and negative cash flows since inception and had an accumulated deficit of $74.1 million as of December 31, 2018. AgeX expects to continue to incur operating losses and negative cash flows.

AgeX has evaluated its projected cash flows and believes that its cash and cash equivalents of $6.7 million as of December 31, 2018, plus the $4.5 million in proceeds from exercise of Warrants in March 2019 (see Note 9), provide sufficient cash, cash equivalents, and liquidity to carry out AgeX's current operations through at least twelve months from the issuance date of the consolidated financial statements included herein. AgeX will need to obtain substantial additional funding in connection with its continuing operations after that date. If AgeX is unable to raise capital when needed or on attractive terms, AgeX would be forced to delay, reduce or eliminate its research and development programs.

Basis of presentation - The accompanying consolidated financial statements presented herein have been prepared on a separate, standalone basis, referred to as "carve-out" basis financial statements. Carve-out financial statements are based on a general principle that the historical financial statements of a registrant should reflect, in all material respects, all of the registrant's costs of doing business, including certain expenses incurred by the parent on its behalf. Prior to August 2017, AgeX's current subsidiaries and certain research and development departments within AgeX operated as subsidiaries and research and development departments of BioTime (see Note 4). Beginning with the August 17, 2017 capitalization of AgeX and the Asset Contribution and Separation Agreement ("Asset Contribution Agreement") with BioTime discussed in Note 4, the former subsidiaries and research and development departments of BioTime, including shares of Ascendance Biotechnology, Inc. ("Ascendance"), held by BioTime as an equity method investment, were contributed to AgeX. Although the AgeX legal entity commenced operations in 2017, its subsidiaries, research and development departments and investments, as applicable, operated prior to 2017. Accordingly, the accompanying consolidated financial statements were prepared on a carve-out basis for purposes of presenting what AgeX's consolidated financial position, results of operations and cash flows would have been had AgeX operated the business as a standalone entity for the periods presented. The consolidated financial statements are not necessarily indicative of AgeX's future performance and do not reflect what AgeX's financial performance or results would have been had the company operated as an independent, publicly traded company during the periods presented, and should not be relied upon as an indicator of AgeX's future results.

For periods prior to August 30, 2018, BioTime consolidated the results of AgeX and AgeX's subsidiaries into BioTime's consolidated results based on BioTime's ability to control AgeX's operating and financial decisions and policies through the majority ownership of AgeX common stock throughout the periods presented. As discussed above, beginning on August 30, 2018, BioTime deconsolidated AgeX's consolidated financial statements and results from its consolidated financial statements and results.

The consolidated financial statements are presented in accordance with U.S. generally accepted accounting principles ("GAAP") .

To the extent AgeX does not have its own employees, human resources or facilities for its operations, BioTime or BioTime commonly controlled and consolidated subsidiaries provide certain employees for administrative or operational services, including laboratory space and administrative facilities, as necessary, for the benefit of AgeX, under a Shared Facilities and Services Agreement (the "Shared Facilities Agreement") with BioTime (see Note 4). Accordingly, BioTime allocates expenses such as salaries and payroll related expenses incurred and paid on behalf of AgeX based on the amount of time that particular employees devote to AgeX affairs. Other expenses such as legal, accounting and financial reporting, marketing, and travel expenses are allocated to AgeX to the extent that those expenses are incurred by or on behalf of AgeX. BioTime also allocates certain overhead expenses such as rent and utilities, property taxes, insurance, laboratory expenses and supplies, telecommunications and other indirect expenses. These allocations are made based upon activity-based allocation drivers such as time spent, percentage of square feet of office or laboratory space used, headcount and percentage of personnel devoted to AgeX's operations or management. Management evaluates the appropriateness of the allocations on a periodic basis and believes that this basis for allocation is reasonable.

Principles of consolidation – AgeX's consolidated financial statements include the accounts of its subsidiaries and certain research and development departments, including former BioTime personnel, transferred from BioTime to AgeX in connection with the Asset Contribution Agreement (see Note 4). AgeX consolidated its direct and indirect wholly-owned or majority-owned subsidiaries because AgeX has the ability to control their operating and financial decisions and policies through its ownership, and the noncontrolling interest is reflected as a separate element of stockholders' equity on AgeX's consolidated balance sheets.

As of, and for the year ended, December 31, 2018, AgeX consolidated ReCyte Therapeutics, Inc. ("ReCyte Therapeutics"), LifeMap Sciences, Inc. ("LifeMap Sciences"), and LifeMap Sciences, Ltd. (Israel) and included the historical expenses of certain former BioTime research and development departments (see Note 4). For periods prior to the year ended December 31, 2018, AgeX also consolidated, LifeMap Solutions, Inc. ("LifeMap Solutions"), a subsidiary of LifeMap Sciences, that was transferred to BioTime during June 2017.

On June 6, 2017, BioTime and LifeMap Sciences entered into a Debt Conversion Agreement whereby BioTime acquired: (1) a direct 100% ownership of LifeMap Solutions, a wholly-owned subsidiary of LifeMap Sciences, (2) additional shares of common stock in LifeMap Sciences and (3) certain other assets and intellectual property of LifeMap Sciences. These items were acquired in exchange for the settlement of related party payables due to BioTime by LifeMap Sciences of $8.8 million as of that date (see Note 4).

On August 17, 2017, BioTime contributed all of its then-existing ownership interests in LifeMap Sciences (approximately 82% ownership), ReCyte Therapeutics (approximately 95% ownership), equity method investment in Ascendance (approximately 44% ownership), and certain BioTime general research and development departments, including personnel, to AgeX in exchange for 28,800,000 shares of AgeX common stock pursuant to the Asset Contribution Agreement discussed in Note 4.

On June 6, 2017, because of the transfer of LifeMap Solutions to BioTime, LifeMap Sciences deconsolidated LifeMap Solutions from its financial statements. The exchange of LifeMap Sciences assets, including LifeMap Solutions, for the settlement of related party payables due to BioTime, and the subsequent contribution in August 2017 by BioTime of assets to AgeX under the Asset Contribution Agreement are transactions between entities under common control. Accordingly, the contributed assets and liabilities are recorded at historical carrying values, with the resulting gain recorded in AgeX's additional paid-in capital included in the consolidated statements of stockholders' equity for the year ended December 31, 2017, in accordance with ASC 805-50, *Transactions Between Entities Under Common Control.*

The LifeMap Solutions deconsolidation is not considered a discontinued operation in accordance with ASC 205-20, *Presentation of Financial Statements Discontinued Operations,* because the disposition of LifeMap Solutions does not represent a strategic shift in AgeX' s operations, as defined by ASC 205-20, and the criteria for discontinued operations under ASC 205-20 are not met.

In accordance with the accounting guidance related to carve-out entities, LifeMap Solutions' historical financial statements and operating results have been included in the AgeX consolidated financial statements for reporting periods prior to June 6, 2017, the transfer date of LifeMap Solutions to Bio Time. Loss from operations for the year ended December 31, 2017 includes a $1.8 million gain AgeX recognized on the sale of certain co-developed assets by LifeMap Solutions to its customer prior to the transfer of LifeMap Solutions to BioTime on June 6, 2017.

Subsequent to June 6, 2017, LifeMap Solutions' financial statements and operating results are no longer included in AgeX's consolidated financial statements.

As of, and for the year ended December 31, 2018, AgeX consolidated the following subsidiaries:

Subsidiary	Field of Business	AgeX Ownership	Country
ReCyte Therapeutics	Early stage pre-clinical research and development involved in stem cell-derived endothelial and cardiovascular related progenitor cells for the treatment of vascular disorders, ischemic conditions and brown adipocytes for type-2 diabetes and obesity	94.8%	USA
LifeMap Sciences [(1)]	Biomedical, gene, and disease databases and tools	81.7%	USA

(1) LifeMap Sciences includes LifeMap Sciences, Inc. and its wholly-owned subsidiary LifeMap Sciences, Ltd. an Israeli company .

All material intercompany accounts and transactions between AgeX and its subsidiaries have been eliminated in consolidation.

Use of estimates - The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period with consideration given to materiality. Significant estimates and assumptions which are subject to significant judgment include those related to going concern assessment of consolidated financial statements, allocations and adjustments necessary for carve-out basis of presentation, including the separate return method for income taxes, useful lives associated with long-lived assets, including evaluation of asset impairment, allowances for uncollectible accounts receivables, loss contingencies, deferred income taxes and tax reserves, including valuation allowances related to deferred income taxes, and assumptions used to value stock-based awards or other equity instruments. Actual results could differ materially from those estimates. To the extent there are material differences between the estimates and actual results, AgeX's future results of operations will be affected.

2. Summary of Significant Accounting Policies

Going concern assessment – AgeX assesses going concern uncertainty for its consolidated financial statements to determine if AgeX has sufficient cash and cash equivalents on hand and working capital to operate for a period of at least one year from the date the consolidated financial statements are issued or are available to be issued, which is referred to as the "look-forward period" as defined by Financial Accounting Standard Board's ("FASB") ASU No. 2014-15. As part of this assessment, based on conditions that are known and reasonably knowable to AgeX, AgeX will consider various scenarios, forecasts, projections, and estimates, and AgeX will make certain key assumptions, including the timing and nature of projected cash expenditures or programs, and its ability to delay or curtail those expenditures or programs, if necessary, among other factors. Based on this assessment, as necessary or applicable, AgeX makes certain assumptions concerning its ability to curtail or delay research and development programs and expenditures within the look-forward period in accordance with ASU No. 2014-15.

Cash and cash equivalents – AgeX considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents. As of December 31, 2018 and 2017, AgeX's cash balances totaled $6.7 million and $7.4 million, respectively, and consist entirely of bank account deposits and amounts held in money market funds.

Concentrations of credit risk – Financial instruments that potentially subject AgeX to significant concentrations of credit risk consist primarily of cash and cash equivalents. AgeX limits the amount of credit exposure of cash balances by maintaining its accounts in high credit quality financial institutions. Cash equivalent deposits with financial institutions may occasionally exceed the limits of insurance on bank deposits; however, AgeX has not experienced any losses on such accounts.

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. To increase the comparability of fair value measures, the following hierarchy prioritizes the inputs to valuation methodologies used to measure fair value (ASC 820-10-50), *Fair Value Measurements and Disclosures* :

- Level 1 – Inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.
- Level 2 – Inputs to the valuation methodology include quoted prices for similar assets or liabilities in active markets, and inputs that are observable for the assets or liabilities, either directly or indirectly, for substantially the full term of the financial instruments.
- Level 3 – Inputs to the valuation methodology are unobservable; that reflect management's own assumptions about the assumptions market participants would make and significant to the fair value.

In determining fair value, AgeX utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible, and also considers counterparty credit risk in its assessment of fair value. For the periods presented, AgeX has no financial assets or liabilities recorded at fair value on a recurring basis, except for cash and cash equivalents primarily consisting of money market funds. These assets are measured at fair value using the period-end quoted market prices as a Level 1 input.

The carrying amounts of accounts receivable, net, prepaid expenses and other current assets, related party amounts due to BioTime and other affiliates, accounts payable, accrued liabilities and other current liabilities approximate fair values because of the short-term nature of these items.

Accounts receivable, net – AgeX establishes an allowance for doubtful accounts based on the evaluation of the collectability of its receivables after considering a variety of factors, including the length of time receivables are past due, significant events that may impair the customer's ability to pay, such as a bankruptcy filing or deterioration in the customer's operating results or financial position, and historical experience. If circumstances related to customers change, estimates of the recoverability of receivables would be further adjusted. For subscription contracts in which the subscription term commences before a payment is due, LifeMap Sciences records an accounts receivable as the subscription is earned over time and bills the customer according to the contract terms. LifeMap Sciences continuously monitors collections and payments from customers and maintains a provision for estimated credit losses and uncollectible accounts based upon its historical experience and any specific customer collection issues that have been identified. Amounts determined to be uncollectible are written off against the allowance for doubtful accounts. Accounts receivable, net, include allowance for doubtful accounts of approximately $321,000 as of December 31, 2018 and 2017, for those amounts deemed uncollectible by AgeX or LifeMap Sciences.

Equipment and furniture, net – Equipment and furniture is stated at cost and is being depreciated using the straight-line method over their estimated useful lives ranging from 3 to 10 years. Maintenance and repairs are expensed as incurred whereas significant renewals and betterments are capitalized. When assets are retired or otherwise disposed of, the cost and the related accumulated depreciation are removed from the respective accounts and any resulting gain or loss is reflected in AgeX's results of operations.

Long-lived intangible assets – Long-lived intangible assets, consisting primarily of acquired patents, patent applications, and licenses to use certain patents, including acquired in-process research and development ("IPR&D") with alternative future uses, are stated at acquired cost, less accumulated amortization (see Note 3). Amortization expense is computed using the straight-line method over the estimated useful lives of the assets, generally over 10 years.

Impairment of long-lived assets – Long-lived assets, including long-lived intangible assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be fully recoverable. If an impairment indicator is present, AgeX evaluates recoverability by a comparison of the carrying amount of the assets to future undiscounted net cash flows expected to be generated by the assets. If the assets are impaired, the impairment recognized is measured by the amount by which the carrying amount exceeds the estimated fair value of the assets. Through 2018, there have been no impairment losses.

Transactions with noncontrolling interests of subsidiaries – AgeX accounts for a change in ownership interests in its subsidiaries that does not result in a change of control of the subsidiary under the provisions of ASC 810-10-45-23, *Consolidation – Other Presentation Matters,* which prescribes the accounting for changes in ownership interest that do not result in a change in control of the subsidiary, as defined by GAAP, before and after the transaction . Under this guidance, changes in a controlling stockholder's ownership interest that do not result in a change of control, as defined by GAAP, in the subsidiary are accounted for as equity transactions. Accordingly, if the controlling stockholder retains control, no gain or loss is recognized in the statements of operations of the controlling stockholder. Similarly, the controlling stockholder will not record any additional acquisition adjustments to reflect its subsequent purchases of additional shares in the subsidiary if there is no change of control. Only a proportional and immediate transfer of carrying value between the controlling and the noncontrolling stockholders occurs based on the respective ownership percentages.

Research and development – Research and development expenses include both direct expenses incurred by AgeX or its subsidiaries and indirect overhead costs allocated by BioTime that benefit or support AgeX's research and development functions. Direct research and development expenses consist primarily of personnel costs and related benefits, including stock-based compensation, amortization of intangible assets, outside consultants and suppliers, and license fees paid to third parties to acquire patents or licenses to use patents and other technology. Direct research and development expenses also include allocations for carve-out presentation purposes from certain former BioTime general research departments contributed to AgeX primarily comprised of former BioTime personnel and related expenses, including stock-based compensation, transferred to AgeX, and other outside expenses relevant to the nature of the research projects being conducted that were contributed to AgeX pursuant to the Asset Contribution Agreement discussed in Note 4. Indirect research and development expenses allocated by BioTime to AgeX under the Shared Facilities Agreement (see Note 4), are primarily based on headcount or space occupied, as applicable, and include laboratory supplies, laboratory expenses, rent and utilities, common area maintenance, telecommunications, property taxes and insurance. Research and development expenses incurred and reimbursed by grants from third parties or governmental agencies, including service revenues from co-development projects with customers, if any and as applicable, approximate the respective revenues recognized in the consolidated statements of operations.

General and administrative – General and administrative expenses include both direct expenses incurred by AgeX and indirect overhead costs allocated by BioTime that benefit or support AgeX's general and administrative functions. Direct general and administrative expenses consist primarily of compensation and related benefits, including stock-based compensation, for executive and corporate personnel, and professional and consulting fees. Direct general and administrative expenses also include allocations from certain BioTime general and administrative expenses, including allocated stock-based compensation, for carve-out presentation purposes of the AgeX consolidated statements of operations. These allocations are principally based on the historical general and administrative functions and expenses relevant to BioTime and the AgeX subsidiaries that operated prior to and after AgeX formation during the periods presented. Indirect general and administrative expenses allocated by BioTime to AgeX under the Shared Facilities Agreement (see Note 4) are primarily based on headcount or space occupied, as applicable, and include costs for financial reporting and compliance, rent and utilities, common area maintenance, telecommunications, property taxes and insurance.

Foreign currency translation and other comprehensive income or loss, foreign currency transaction gains and losses – In countries in which AgeX operates where the functional currency is other than the U.S. dollar, assets and liabilities are translated using published exchange rates in effect at the consolidated balance sheet date. Revenues and expenses and cash flows are translated using an approximate weighted average exchange rate for the period. Resulting foreign currency translation adjustments are recorded as other comprehensive income or loss, net of tax, in the consolidated statements of comprehensive income or loss and included as a component of accumulated other comprehensive income or loss on the consolidated balance sheets . Foreign currency translation adjustments are immaterial for all periods presented.

For transactions denominated in other than the functional currency of AgeX or its subsidiaries, AgeX recognizes transaction gains and losses in the consolidated statements of operations and classifies the gain or loss based on the nature of the item that generated it. The majority of AgeX's foreign currency transaction gains and losses are generated by LifeMap Sciences Ltd.'s intercompany payable due to LifeMap Sciences **,** Inc., which are U.S. dollar-denominated, while LifeMap Sciences Ltd.'s functional currency is the Israeli New Shekel ("NIS"). Accordingly, foreign currency remeasurement gains and losses related to this intercompany payable are included in other income and expenses, net.

Income taxes – For Federal and California purposes, AgeX's activity through August 30, 2018 and for 2017 will be or was included in BioTime's federal consolidated and California combined tax returns. For those periods, the income tax provision was prepared in accordance with ASC 740 , *Income Taxes* , using the separate return method to determine the tax provision of AgeX for carve-out presentation purposes of its consolidated financial statements. The separate return method, among other items, requires that the amount of current and deferred tax expense for a group that files a consolidated income tax return be allocated among the members of that group as if each group member were a separate taxpayer. As a result, the provision for income taxes has been presented as if AgeX had filed a separate federal consolidated tax return and a California combined tax return for those periods. In using the separate return method, the sum of the amounts allocated to the members of the income tax return group may not equal the consolidated amount. If tax attributes recorded in the carve-out consolidated financial statements are materially different from the actual tax attributes pertaining to the legal entities of AgeX and its subsidiaries, or to BioTime and its subsidiaries, those differences are identified and disclosed in Note 7. Accordingly, depending on the future legal structure of AgeX and related tax elections that may be taken by AgeX, the effective tax rate of AgeX in future years could vary materially from its historical effective tax rates. The historical deferred tax assets, including the operating losses and credit carryforwards generated by certain research and development departments that operated within BioTime and were transferred to AgeX on August 17, 2017 (Note 4), have been presented as tax attributes of AgeX consistent with the principles of the separate return method described above. As of December 31, 2018, the deferred tax assets and liabilities presented in Note 7, including net operating loss carryforwards and research and development credits, represent the tax attributes of the AgeX and its subsidiaries.

However, the net operating losses and research and development credits generated before August 17, 2017, the contribution date to AgeX, will remain as tax attributes of BioTime (see Note 7). In general, n et operating losses and other tax credit carryforwards generated by legal entities in a consolidated federal tax group or a combined state tax group, collectively "the tax group", are available to other members of the tax group depending on the nature of the transaction that a member may enter into while still in the tax group. However, under the Tax Matters Agreement between BioTime and AgeX entered into on August 17, 2017, any use of a member's net operating loss and other tax credit carryforwards by the other member is subject to reimbursement by the benefiting member for the actual tax benefit realized. Since the August 30, 2018 deconsolidation of AgeX and to date, neither BioTime nor AgeX has used the tax attributes of the other.

AgeX accounts for income taxes in accordance with ASC 740, which prescribes the use of the asset and liability method, whereby deferred tax asset or liability account balances are calculated at the balance sheet date using current tax laws and enacted rates in effect. Valuation allowances are established when necessary to reduce deferred tax assets when it is more likely than not that a portion or all of the deferred tax assets will not be realized. AgeX's judgments, estimates and projections regarding future taxable income may change over time due to changes, among other factors, in market conditions, changes in tax laws, and tax planning strategies. If AgeX's assumptions and consequently its estimates change in the future, the valuation allowance may be increased or decreased, which may have a material impact on AgeX's consolidated financial statements.

The guidance also prescribes a recognition threshold and a measurement attribute for the financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. For those benefits to be recognized, a tax position must be more-likely-than-not sustainable upon examination by taxing authorities. AgeX recognizes accrued interest and penalties related to unrecognized tax benefits as income tax expense. No amounts were accrued for the payment of interest and penalties as of December 31, 2018 and 2017. AgeX is not aware of any uncertain tax positions that could result in significant additional payments, accruals, or other material adjustments for the years ended December 31, 2018 and 2017. AgeX is currently unaware of any tax issues under review.

On December 22, 2017, the United States enacted major federal tax reform legislation, Public Law No. 115-97, commonly referred to as the 2017 Tax Cuts and Jobs Act ("2017 Tax Act"), which enacted a broad range of changes to the Internal Revenue Code. Changes to taxes on corporations impacted by the 2017 Tax Act include, but not limited to, lowering the U.S. federal tax rates to a 21% flat tax rate, eliminating the corporate alternative minimum tax ("AMT"), imposing additional limitations on the deductibility of interest and net operating losses, allowing any net operating loss ("NOLs") generated in tax years ending after December 31, 2017 to be carried forward indefinitely and generally repealing carrybacks, reducing the maximum deduction for NOL carryforwards arising in tax years beginning after 2017 to a percentage of the taxpayer's taxable income, and allowing for additional expensing of certain capital expenditures. The 2017 Tax Act also puts into effect a number of changes impacting operations outside of the United States including, but not limited to, the imposition of a one-time tax "deemed repatriation" on accumulated offshore earnings not previously subject to U.S. tax, and shifts the U.S taxation of multinational corporations from a worldwide system of taxation to a territorial system. ASC 740 requires the effects of changes in tax rates and laws on deferred tax balances (including the effects of the one-time transition tax) to be recognized in the period in which the legislation is enacted (see Note 7).

On December 22, 2017, the SEC staff issued Staff Accounting Bulletin No. 118 ("SAB 118") to provide guidance for companies that are not able to complete their accounting for the income tax effects of the 2017 Tax Act in the period of enactment. SAB 118 allows AgeX to record provisional amounts during a measurement period not to extend beyond one year of the enactment date (see Note 7). AgeX applied the guidance in SAB 118 when accounting for the enactment-date effects of the 2017 Tax Act during the years ended December 31, 2018 and 2017. As of December 31, 2018, AgeX completed its accounting for all the enactment-date income tax effects of the 2017 Tax Act further discussed in Note 7.

For 2017, LifeMap Sciences included a deemed repatriation of $227,000 in accumulated foreign earnings not previously subject to U.S. tax in federal income from LifeMap Sciences Ltd. The federal taxable income was offset by the LifeMap Sciences' net operating loss carryforwards resulting in no federal income tax due.

Beginning in 2018, the 2017 Tax Act subjects a U.S. stockholder to tax on Global Intangible Low Tax Income (GILTI) earned by certain foreign subsidiaries. In general, GILTI is the excess of a U.S. shareholder's total net foreign income over a deemed return on tangible assets. The provision further allows a deduction of 50% of GILTI, however this deduction is limited by the company's pre-GILTI U.S. income. For 2018, AgeX included an immaterial amount of GILTI in U.S. gross income related to LifeMap Sciences, Ltd., which was fully offset by current year operating losses. Current interpretations under ASC 740 state that an entity can make an accounting policy election to either recognize deferred taxes for temporary basis differences expected to reverse as GILTI in future years or to provide for the tax expense related to GILTI in the year the tax is incurred as a period expense. AgeX has elected to account for GILTI as a current period expense when incurred.

Stock-based compensation – AgeX recognizes compensation expense related to employee option grants and restricted stock grants, if any, in accordance with FASB ASC 718, *Compensation – Stock Compensation* ("ASC 718").

AgeX estimates the fair value of employee stock-based payment awards on the grant-date and recognizes the resulting fair value, net of estimated forfeitures for grants prior to 2017, over the requisite service period. Upon adoption of Accounting Standards Update ("ASU") 2016-09 on January 1, 2017 as further discussed below, f orfeitures are accounted for as they occur instead of based on the number of awards that were expected to vest prior to adoption of ASU 2016-09.

AgeX uses the Black-Scholes option pricing model for estimating the fair value of options granted under AgeX's 2017 Equity Incentive Plan (the "Plan"). The fair value of each restricted stock grant, if any, is determined based on the value of the common stock granted or sold. AgeX has elected to treat stock-based payment awards with time-based service conditions as a single award and recognizes stock-based compensation on a straight-line basis over the requisite service period.

Compensation expense for non-employee stock-based awards is recognized in accordance with ASC 718 and FASB ASC 505-50, *Equity-Based Payments to Non-Employees* (see *Recently issued accounting pronouncements not yet adopted below*). Stock option awards issued to non-employees, principally consultants or outside contractors, as applicable, are accounted for at fair value using the Black-Scholes option pricing model. Management believes that the fair value of the stock options can more reliably be measured than the fair value of services received. AgeX records compensation expense based on the then-current fair values of the stock options at each financial reporting date. Compensation expense recorded during the service period is adjusted in subsequent periods for changes in the fair value of the stock options until the earlier of the date at which the non-employee's performance is complete or a performance commitment is reached, which is generally when the stock option award vests. Compensation expense for non-employee grants is recorded on a straight-line basis in the consolidated statements of operations.

The Black-Scholes option pricing model requires AgeX to make certain assumptions including the fair value of the underlying common stock, the expected term, the expected volatility, the risk-free interest rate and the dividend yield (see Note 6).

The fair value of the shares of common stock underlying the stock options has historically been determined by the Board of Directors. Because there was no public market for AgeX's common stock prior to November 29, 2018, the Board of Directors has determined the fair value of the common stock at the time of the grant of options by considering a number of objective and subjective factors including contemporaneous sales of common stock to investors, valuation of comparable companies, operating and financial performance and general and industry-specific economic outlook, amongst other factors. The fair value was determined in accordance with applicable elements of the practice aid issued by the American Institute of Certified Public Accountants titled *Valuation of Privately Held Company Equity Securities Issued as Compensation* . Since our common stock began publicly trading on the NYSE American, the fair value of our common stock underlying stock options has been valued based on prevailing market prices.

The expected term of employee stock options represents the weighted-average period that the stock options are expected to remain outstanding. AgeX estimates the expected term of options granted using the "simplified method" provided under *Staff Accounting Bulletin, Topic 14* , or SAB Topic 14.

Because AgeX's common stock had no publicly traded history prior to November 29, 2018, AgeX estimated the expected volatility of the awards from the historical volatility of selected public companies within the biotechnology industry with comparable characteristics to AgeX, including similarity in size, lines of business, market capitalization, revenue and financial leverage. AgeX determined the expected volatility assumption using the frequency of daily historical prices of comparable public company's common stock for a period equal to the expected term of the options. For the year ended December 31, 2018, AgeX estimated the expected volatility using its own stock price volatility to the extent applicable or a combination of its stock price volatility and the stock price volatility of stock of peer companies, for a period equal to the expected term of the options.

The risk-free interest rate assumption is based upon observed interest rates on the United States government securities appropriate for the expected term of AgeX's stock options.

The dividend yield assumption is based on AgeX's history and expectation of dividend payouts. AgeX has never declared or paid any cash dividends on its common stock, and AgeX does not anticipate paying any cash dividends in the foreseeable future.

All excess tax benefits and tax deficiencies from stock-based compensation awards accounted for under ASC 718 are recognized as an income tax benefit or expense, respectively, in the consolidated statements of operations. An excess income tax benefit arises when the tax deduction of a share-based award for income tax purposes exceeds the compensation cost recognized for financial reporting purposes and, a tax deficiency arises when the compensation cost exceeds the tax deduction. Because AgeX had no stock option exercises during the years ended December 31, 2018 and 2017, and because of AgeX's full valuation allowance as of December 31, 2018 and 2017, there was no impact to AgeX's consolidated financial statements from the adoption of 2016-09 (see Note 7).

Since AgeX did not have an equity incentive plan until July 2017 (see Note 6), consolidated stock-based compensation expense for the applicable period prior to that date consisted of stock-based compensation allocated from BioTime, principally related to stock-based compensation of former BioTime employees transferred to AgeX, and stock-based compensation of AgeX's subsidiaries that have their own equity plans. Stock-based compensation expense for the years ended December 31, 2018 and 2017 consists of stock-based compensation under the AgeX 2017 Equity Incentive Plan (Note 6), stock-based compensation allocated from BioTime and stock-based compensation of AgeX's subsidiaries that have their own stock option plans.

As discussed above, certain of AgeX's consolidated subsidiaries have their own share-based compensation plans. For share-based compensation awards granted by those privately-held consolidated subsidiaries under their respective equity plans, AgeX determines the fair value of the options granted under those plans using similar methodologies and assumptions AgeX used for its stock options discussed above.

Although the fair value of stock options is determined in accordance with FASB guidance, changes in the assumptions and allocations can materially affect the estimated value and therefore the amount of compensation expense recognized in the consolidated financial statements.

Segments - AgeX's executive management team, as a group, represents the entity's chief operating decision makers. To date, AgeX's executive management team has viewed AgeX's operations as one segment that includes the research and development of regenerative medicine technologies targeting the diseases of aging and metabolic disorders, oncology, and neurological diseases and disorders, blood and vascular system diseases and disorders, and pluripotent cell technologies. As a result, the financial information disclosed materially represents all of the financial information related to AgeX's sole operating segment.

Basic and diluted net income or loss per share attributable to common stockholders – Basic income or loss per share is calculated by dividing net income or loss attributable to AgeX common stockholders by the weighted average number of shares of common shares outstanding, net of unvested restricted stock or restricted stock units, subject to repurchase by AgeX, if any, during the period. Diluted income per share is calculated by dividing the net income attributable to AgeX common stockholders by the weighted average number of common shares outstanding, adjusted for the effects of potentially dilutive common shares issuable under outstanding stock options and warrants, using the treasury-stock method, and convertible preferred stock, if any, using the if-converted method.

On August 17, 2017, in connection with the Asset Contribution Agreement discussed in Note 4, AgeX issued 28.8 million shares of common stock to its then parent company, BioTime. For carve-out presentation purposes and financial reporting purposes of the reported basic and diluted net loss per share attributable to AgeX common stockholders in AgeX's consolidated statements of operations, the 28.8 million shares of AgeX common stock issued to BioTime are assumed to be issued and outstanding from the beginning of the earliest period presented.

For the years ended December 31, 2018 and 2017, b ecause AgeX reported a net loss attributable to common stockholders, all potentially dilutive common stock, comprised of stock options and warrants, is antidilutive.

The following common stock equivalents were excluded from the computation of diluted net loss per common share for the period presented because including them would have been antidilutive (in thousands):

	Year Ended December 31,	
	2018	2017
Stock options	2,269	1,239
Warrants	2,000	-

Recently adopted accounting pronouncements

Adoption of ASU 2014-09, Revenues from Contracts with Customers (Topic 606). During May 2014, the FASB issued ASU 2014-09 ("Topic 606") *Revenue from Contracts with Customers* which supersedes the revenue recognition requirements in Topic 605 *Revenue Recognition* ("Topic 605"). Topic 606 describes principles an entity must apply to measure and recognize revenue and the related cash flows, using the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligation(s) in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. Topic 606 core principle is that it requires entities to recognize revenue when control of the promised goods or services is transferred to customers at an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services.

AgeX adopted Topic 606 as of January 1, 2018 using the modified retrospective transition method applied to those contracts which were not completed as of the adoption date. Results for reporting periods beginning on January 1, 2018 and thereafter are presented under Topic 606, while prior period amounts are not adjusted and continue to be reported in accordance with AgeX's historic revenue recognition accounting under Topic 605.

On January 1, 2018, the impact of the adoption and application of Topic 606 was immaterial, and no cumulative effect adjustment was made as of that date. In the applicable paragraphs below, AgeX has summarized its revenue recognition policies for its various revenue sources in accordance with Topic 606.

Revenue recognition by source and geography . Revenues are recognized when control of the promised goods or services is transferred to customers, or in the case of governmental entities funding a grant, when allowable expenses are incurred, in an amount that reflects the consideration AgeX or a subsidiary, depending on which company has the customer or the grant, expects to be entitled to in exchange for those goods or services.

The following table presents AgeX's consolidated revenues disaggregated by source (in thousands).

	Year Ended December 31,	
REVENUES:	**2018**	**2017 (1)**
Subscription and advertisement revenues	$ 1,227	$ 1,399
Service and other revenues	149	5
Grant revenues	20	-
Total revenues	$ 1,396	$ 1,404

(1) Amounts recognized prior to adoption of Topic 606 have not been adjusted under the Topic 606 modified retrospective transition method.

The following table presents consolidated revenues (in thousands), disaggregated by geography, based on the billing addresses of customers.

	Year Ended December 31,	
REVENUES:	**2018**	**2017 (1)**
United States	$ 813	$ 808
Foreign	583	596
Total revenues	$ 1,396	$ 1,404

(1) Amounts recognized prior to adoption of Topic 606 have not been adjusted under the Topic 606 modified retrospective transition method.

Subscription and advertisement revenues . LifeMap Sciences, a direct majority-owned subsidiary of AgeX, sells subscription-based products, including research databases and software tools, for biomedical, gene, and disease research. LifeMap Sciences sells these subscriptions primarily through the internet to biotech and pharmaceutical companies worldwide. LifeMap Sciences' principal subscription product is the *GeneCards* ® Suite, which includes the *GeneCards* ® human gene database, and the *MalaCards* human disease database.

LifeMap Sciences' performance obligations for subscriptions include a license of intellectual property related to its genetic information packages and premium genetic information tools. These licenses are deemed functional licenses that provide customers with a "right to access" to LifeMap Sciences' intellectual property during the subscription period and, accordingly, revenue is recognized over a period of time, which is generally the subscription period. Payments are typically received at the beginning of a subscription period and revenue is recognized according to the type of subscription sold.

For subscription contracts in which the subscription term commences before a payment is due, LifeMap Sciences records an accounts receivable as the subscription is earned over time and bills the customer according to the contract terms. LifeMap Sciences continuously monitors collections and payments from customers and maintains a provision for estimated credit losses and uncollectible accounts based upon its historical experience and any specific customer collection issues that have been identified. Amounts determined to be uncollectible are written off against the allowance for doubtful accounts. LifeMap Sciences has not historically provided significant discounts, credits, concessions, or other incentives from the stated price in the contract as the prices are offered on a fixed fee basis for the type of subscription package being purchased. LifeMap Sciences may issue refunds only if the packages cease to be available for reasons beyond its control. In such an event, the customer will get a refund on a pro-rata basis. Both the customer and LifeMap Sciences expect the subscription packages to be available during the entire subscription period, and LifeMap Sciences has not experienced any significant issues with the availability of the product and has not issued any material refunds. Using the most likely amount method for estimating refunds under Topic 606, including historical experience, LifeMap Sciences determined that the single most likely amount of variable consideration for refunds is immaterial as LifeMap Sciences does not expect to pay any refunds.

LifeMap Sciences performance obligations for advertising are overall advertising services and represent a series of distinct services. Contracts are typically less than a year in duration and the fees charged may include a combination of fixed and variable fees with the variable fees tied to click throughs to the customer's products on their website. LifeMap Sciences allocates the variable consideration to each month the click through services occur and allocates the annual fee to the performance obligation period of the initial term of the contract because those amounts correspond to the value provided to the customer each month. For click-through advertising services, at the time the variable compensation is known and determinable, the service has been rendered. Revenue is recognized at that time. The annual fee is recognized over the initial subscription period because this is a service and the customer simultaneously receives and consumes the benefit of LifeMap Sciences' performance.

LifeMap Sciences deferred subscription revenues primarily represent subscriptions for which cash payment has been received for the subscription term, but the subscription term has not been completed as of the balance sheet date reported. For the years ended December 31, 2018 and 2017, LifeMap Sciences recognized $1.2 million and $1.4 million, respectively, in subscription and advertisement revenues. As of December 31, 2018 and 2017, there was $0.3 million included in deferred revenues in the consolidated balance sheets which is expected to be recognized as subscription revenue over the next twelve months.

LifeMap Sciences has licensed from third parties the databases and software it commercializes and has a contractual obligation to pay royalties to the licensor on subscriptions sold. These costs are included in cost of sales on the consolidated statements of operations when the cash is received and the royalty obligation is incurred as the royalty payments do not qualify for capitalization of costs to fulfill a contract under ASC 340-40, *Other Assets and Deferred Costs - Contracts with Customers* .

Grant revenues . In applying the provisions of Topic 606, AgeX has determined that government grants are out of the scope of Topic 606 because the government entities do not meet the definition of a "customer", as defined by Topic 606, as there is not considered to be a transfer of control of good or services to the government entities funding the grant. AgeX has, and will continue to, account for grants received to perform research and development services in accordance with ASC 730-20, *Research and Development Arrangements* , which requires an assessment, at the inception of the grant, of whether the grant is a liability or a contract to perform research and development services for others. If AgeX or a subsidiary receiving the grant is obligated to repay the grant funds to the grantor regardless of the outcome of the research and development activities, then AgeX is required to estimate and recognize that liability. Alternatively, if AgeX or a subsidiary receiving the grant is not required to repay, or if it is required to repay the grant funds only if the research and development activities are successful, then the grant agreement is accounted for as a contract to perform research and development services for others, in which case, grant revenue is recognized when the related research and development expenses are incurred. AgeX had no grant revenues during 2017.

In September 2018, AgeX was awarded a grant of up to approximately $225,000 from the National Institutes of Health (NIH). The NIH grant provides funding for continued development of AgeX technologies for treating osteoporosis. The grant funds will be made available by the NIH as allowable expenses are incurred. For the year ended December 31, 2018, AgeX incurred approximately $20,000 of allowable expenses under the NIH grant and recognized a corresponding amount of grant revenues .

On April 5, 2018, ReCyte Therapeutics was awarded a grant of up to approximately $386,000 from the NIH. The NIH grant provides funding for continued development of ReCyte Therapeutic's technologies for treating stroke. The grant funds will be made available by the NIH to ReCyte Therapeutics as allowable expenses are incurred. As of December 31, 2018, no allowable expenses were incurred under the NIH grant.

Arrangements with multiple performance obligations . AgeX's contracts with customers may include multiple performance obligations. For such arrangements, AgeX allocates revenue to each performance obligation based on its relative standalone selling price. AgeX generally determines or estimates standalone selling prices based on the prices charged, or that would be charged, to customers for that product or service. As of, and for the year ended, December 31, 2018, AgeX did not have significant arrangements with multiple performance obligations.

Recently issued accounting pronouncements not yet adopted – The following accounting standards, which are not yet effective, are presently being evaluated by AgeX to determine the impact that they might have on its consolidated financial statements.

In June 2018, the FASB issued ASU 2018-07, *Compensation - Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting* , which simplifies the accounting for non-employee share-based payment transactions. The new standard expands the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from non-employees. ASU 2018-07 is effective for fiscal years beginning after December 15, 2018 (including interim periods within that fiscal year), with early adoption permitted. As AgeX does not have a significant number of nonemployee share-based awards, AgeX does not believe that the application of the new standard will have a material impact on its consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)* , which requires lessees to recognize assets and liabilities for leases with lease terms greater than twelve months in the statement of financial position. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. ASU 2016-02 also requires improved disclosures to help users of financial statements better understand the amount, timing and uncertainty of cash flows arising from leases. The update is effective for fiscal years beginning after December 15, 2018, including interim reporting periods within that reporting period. Early adoption is permitted. In July 2018, the FASB issued ASU 2018-10 and ASU 2018-11. ASU 2018-10 provides certain areas for improvement in ASU 2016-02 and ASU 2018-11 provides an additional optional transition method by allowing entities to initially apply the new lease standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. AgeX is completing its assessment of the impact the adoption of ASU 2016-02 will have on its financial statements, but because AgeX does not have significant operating leases as of December 31, 2018, AgeX does not expect the adoption of ASU 2016-02 on January 1, 2019, including the use of the optional transition method allowed by ASU 2018-11, will have a material impact on its consolidated financial statements . If AgeX 's new sublease discussed in Note 9 is consummated, AgeX expects that the sublease will be subject to the new standard and, upon consummation, will be recognized as a right-of-use asset and operating lease liability in accordance with ASU 2016-02.

3. Selected Balance Sheet Components

Accounts payable and accrued liabilities

At December 31, 2018 and 2017, accounts payable and accrued liabilities were comprised of the following (in thousands):

	December 31,	
	2018	**2017 (1)**
Accounts payable	$ 150	$ 75
Accrued compensation	254	257
Accrued vendors and other expenses	1,012	436
Accounts payable and accrued liabilities	$ 1,416	$ 768

(1) Reflects the effect of the LifeMap Solutions transfer to BioTime on June 6, 2017 discussed in Notes 1 and 4.

Equipment and furniture, net

At December 31, 2018 and 2017, equipment and furniture were comprised of the following (in thousands):

	December 31,	
	2018	2017
Equipment and furniture	$ 245	$ 274
Accumulated depreciation	(155)	(145)
Equipment and furniture, net	$ 90	$ 129

Depreciation expense amounted to $58,000 and $165,000 for the years ended December 31, 2018 and 2017, respectively. Depreciation expense in 2017 includes amounts allocated from BioTime to AgeX for carve-out basis of presentation (see Note 2).

Intangible assets, net

Intangible assets are primarily comprised of acquired licenses and other rights by LifeMap Sciences from a third party for certain databases it commercializes, which includes the *GeneCards* ® human gene database, and the *MalaCards* ™ human disease database. These databases are available primarily through the internet and sold as subscriptions or on a fee per use basis for use by researchers at pharmaceutical and biotechnology companies and other institutions.

On August 13, 2018, AgeX entered into an Asset Purchase Agreement (the "Purchase Agreement") with Escape Therapeutics, Inc. ("Escape") pursuant to which AgeX acquired certain patents and patent applications related primarily to methods of modifying cells and tissues and certain pluripotent stem cell lines so as to reduce their risk of being rejected when transplanted. This technology is called "UniverCyte™". AgeX paid Escape $1,072,436 in cash and issued 80,000 shares of AgeX common stock, with an approximate value of $240,000, for aggregate acquisition cost of $1.3 million for the UniverCyte™ assets. The Purchase Agreement was considered an asset acquisition rather than a business combination in accordance with ASC 805-50, *Business Combinations* .

ASC 730-10-25(c), *Research and Development – Intangible Assets Purchased from Others* , provides guidance for acquisition and capitalization of the cost of intangible assets purchased from others in an asset acquisition that have alternative future uses in other research and development projects. These intangible assets are referred to as acquired in-process research and development with alternative future uses and are accounted for as intangible assets and amortized to research and development over their useful life. Acquired IPR&D in an asset acquisition that does not have any alternative future uses is expensed under the same guidance. As an initial focus, AgeX intends to use the UniverCyte™ technology in the development of its two lead products, AGEX-BAT1 and AGEX-VASC1 for the treatment of Type II diabetes and cardiovascular aging, respectively. Accordingly, AgeX recorded the UniverCyte™ technology acquired from Escape as IPR&D intangible assets with alternative future uses in accordance with ASC 730-10-25(c) and is amortizing those assets to research and development expense over their estimated 10 year useful life.

Pursuant to the Purchase Agreement, if AgeX has not expended a certain level of funds by the end of 2019 toward the research and development of pluripotent stem cell or progenitor cell products and processes utilizing the acquired patents and the development or improvement of the acquired patents, AgeX will make an additional annual cash payment to Escape. If total development expenditures have still not reached a predetermined level by the end of 2020, AgeX will pay Escape additional amounts and the royalty rate for net sales of products, processes and services will be tripled until total expenditures reach the required threshold. The aggregate cash payments AgeX may make to Escape for not reaching the predetermined level of expenses can be up to $1 million. AgeX expects to meet this requirement as the acquired technology is planned to be developed and used in AgeX's two leading programs discussed above and, accordingly, no amounts have been accrued as of December 31, 2018 for this provision of the Purchase Agreement.

In addition to the purchase price, AgeX will pay Escape a royalty of less than 1% on net sales of products, processes and services under the acquired patents, if the assets are commercialized. Additional shares of AgeX common stock totaling up to $4.3 million of market value will also be issued to Escape upon the attainment of development and regulatory approval milestones by AgeX for each product covered by the acquired patents. Contingent consideration in an asset acquisition is generally recorded when probable and estimable in accordance with ASC 450, *Contingencies* . Accordingly, none of the milestone payments have been accrued since the attainment of any milestone in the Purchase Agreement is not probable as of December 31, 2018.

Escape has agreed to indemnify AgeX from certain liabilities. The Purchase Agreement contains representations, warranties and agreements customary for a transaction of this nature.

AgeX has also agreed to engage Escape's chief executive officer as a consultant for a period of up to three years to assist AgeX in utilizing the acquired patents. AgeX pays $200,000 per year in consulting fees as services are performed included in research and development expenses.

At December 31, 2018 and 2017, intangible assets, primarily consisting of acquired in-process research and development and patents, and accumulated amortization were as follows (in thousands):

	December 31,	
	2018	2017
Intangible assets	$ 5,586	$ 4,274
Accumulated amortization	(2,877)	(2,400)
Intangible assets, net	$ 2,709	$ 1,874

Amortization expense amounted to $477,000 and $517,000 for the years ended December 31, 2018 and 2017, respectively. Amortization expense in 2017 also includes amounts allocated from BioTime to AgeX for carve-out basis of presentation (see Note 2).

4. Related Party Transactions

Related Party Payables to BioTime

Since inception, ReCyte Therapeutics, LifeMap Sciences and LifeMap Solutions, former subsidiaries of BioTime, had accumulated related party payables due to BioTime, mainly comprised of working capital advances and Use Fees under the Shared Facilities Agreement described below. BioTime generally did not historically charge interest on Use Fee payable and only commenced charging interest for working capital advances in 2017, which was insignificant for the applicable periods presented.

Prior to January 1, 2017, the aggregate related party payables due to BioTime for these working capital advances and Use Fees amounted to $23.2 million, which was comprised of total $12.9 million owed by LifeMap Sciences and its then subsidiary LifeMap Solutions, and $10.3 million owed by ReCyte Therapeutics, included in current liabilities on the consolidated balance sheets.

On June 6, 2017, in contemplation of capitalizing AgeX and to further incentivize new investors to invest in AgeX as discussed below, BioTime agreed to settle or cancel these related party payable balances with the subsidiaries as follows:

- For settlement of related party payables owed by LifeMap Sciences and LifeMap Solutions, (i) LifeMap issued to additional shares of LifeMap common stock, (ii) LifeMap Sciences canceled or terminated certain license agreements with BioTime and transferred other intangible assets to BioTime, and (iii) BioTime obtained a direct 100% ownership interest in LifeMap Solutions (the "LifeMap Sciences Settlement"). The LifeMap Sciences Settlement was done between entities under common control and the changes in ownership interests did not result in a change of control under GAAP, therefore the gain from the transaction was recorded in equity in accordance with ASC 805-50 and ASC 810-10-45-23. Accordingly, as a result of the LifeMap Sciences Settlement, AgeX recorded $13.4 million as additional paid-in capital from BioTime, which was primarily comprised of (i) settlement of the $8.8 million related party payable by LifeMap Sciences described above and in Note 1, (ii) a $4.4 million net gain on the transfer of LifeMap Solutions to BioTime on June 6, 2017, principally related to the transfer of a related party payable by LifeMap Solutions to BioTime as of that date, and (iii) a $0.2 million proportional equity transfer, at carrying value, from noncontrolling interest to the equity of AgeX, included in the consolidated statements of stockholders' equity for the year ended December 31, 2017.

- BioTime agreed to cancel approximately $11.2 million of related party payable by ReCyte Therapeutics due to BioTime, resulting in the reclassification of the related party payable to additional paid-in capital from BioTime included in the consolidated statements of stockholders' equity for the year ended December 31, 2017. Since there was no change in ownership percentage in ReCyte Therapeutics held by BioTime or AgeX, there was no impact to noncontrolling interest for this transaction.

On August 17, 2017, BioTime contributed its ownership in LifeMap Sciences, ReCyte Therapeutics and other assets to AgeX in exchange for 28.8 million shares of AgeX common stock as further discussed below and in Note 5.

Asset Contribution Agreement

On August 17, 2017, AgeX received its initial assets and cash from BioTime and certain investors. BioTime contributed certain assets and cash to AgeX in exchange for 28,800,000 shares of AgeX common stock (see Note 5) pursuant to the Asset Contribution Agreement. BioTime and AgeX also entered into a License Agreement pursuant to which BioTime licensed or sublicensed to AgeX, and AgeX granted to BioTime an option to license back, certain patent rights. Concurrently with the acquisition of assets from BioTime under the Asset Contribution Agreement, AgeX sold 4,950,000 shares of its common stock for $10.0 million in cash primarily to investors other than BioTime, which included $1.2 million from the Chairman of BioTime's Board of Directors and $32,000 from BioTime. At the close of the financing, BioTime owned 85.4% of the issued and outstanding shares of AgeX common stock.

Assets Contributed:

Pursuant to the Asset Contribution Agreement, BioTime contributed to AgeX the following assets:

- Intellectual property and proprietary technology, including certain patents and patent applications and know-how that comprised BioTime's "iTR" and adipose brown fat tissue technology;
- Approximately 95% of the outstanding shares of ReCyte Therapeutics common stock, which constituted all of the shares BioTime held prior to the contribution;
- Approximately 82% of the outstanding shares of LifeMap Sciences common stock, which constituted all of the shares BioTime held prior to the contribution;
- Approximately 44% of the outstanding shares of Ascendance, which constituted all of the shares BioTime held prior to the contribution.
- $100,000 in cash; and
- Certain other assets and contracts, including BioTime research and development departments and personnel related to the AgeX research and development programs.

Assumption of Liabilities:

AgeX agreed to assume all third-party obligations and liabilities related to the assets contributed and contracts assigned to AgeX or the operation of the AgeX related business.

Other Matters:

The Asset Contribution Agreement also sets forth other terms that govern certain aspects of BioTime's ongoing relationship with AgeX if in the future BioTime distributes its AgeX shares to BioTime shareholders.

License Agreement

Concurrently with the contribution of assets to AgeX under the Asset Contribution Agreement, BioTime and AgeX entered into a License Agreement pursuant to which BioTime has licensed to AgeX, with rights to sublicense, certain intellectual property, including patents and patent applications and know-how for use in the development, manufacture and commercialization of products or services for the prevention, treatment, amelioration, diagnosis or monitoring of all human and non-human animal diseases and conditions except for the field of medical products, devices and services for the reserved BioTime fields of orthopedic, ophthalmic and medical aesthetic uses. In addition, BioTime retained an option right to license, on terms to be negotiated, iTR patents in research, development, manufacturing and commercialization of treatments in the reserved BioTime fields. The licensed patents and know-how relate generally to (a) BioTime's *PureStem* ® human embryonic progenitor cell lines, and (b) telomere length and DNA quality control analysis in pluripotent stem cells.

The BioTime patent rights licensed to AgeX are exclusive and worldwide except for existing third-party licenses, and for medical products, devices, and services related to tendons. AgeX additionally received an option to license certain BioTime retained patent rights outside of orthopedic indications unless a license grant would compete with a BioTime program or products in the retained BioTime field.

The Asset Contribution Agreement and other transactions discussed above were completed between entities under common control. Accordingly, the contributed assets and liabilities are recorded at historical carrying values, with the resulting gain recorded in AgeX's additional paid-in capital included in the consolidated statements of stockholders' equity for the year ended December 31, 2017, in accordance with ASC 805-50 .

Allocated Expenses from BioTime

Consistent with the principles of carve-out financial statements and presentation discussed in Note 1, certain expenses have been allocated by BioTime and included in the AgeX consolidated statements of operations and consolidated statements of stockholders' equity (deficit) as contribution by BioTime for the periods presented.

Research and development expenses shown below include allocations from BioTime primarily attributable to certain former BioTime general research and development departments contributed to AgeX. Such expenses were primarily comprised of personnel expenses and related expenses, including stock-based compensation, and other outside expenses relevant to the nature of the research projects being conducted that were contributed to AgeX pursuant to the Asset Contribution Agreement discussed above.

General and administrative expenses shown below include allocations from certain BioTime general and administrative expenses, including allocated stock-based compensation, for carve-out presentation purposes of the AgeX consolidated statements of operations. These allocations are principally based on the historical general and administrative functions and expenses relevant to BioTime and the AgeX subsidiaries that operated prior to and after AgeX formation during the periods presented

Management considers the allocation methodologies used to allocate expenses as reasonable and appropriate based on historical BioTime expenses attributable to AgeX and its operations for purposes of the standalone, carve-out financial statements included herein. The expenses reflected in the consolidated financial statements may not be indicative of expenses that will be incurred by AgeX as an independent, publicly traded company and should not be relied upon as an indicator of AgeX's future results .

Allocated expenses from BioTime, net of allocations from AgeX to BioTime, included in the consolidated statements of operations were as follows (in thousands):

	Year Ended December 31,	
	2018	2017
Research and development	$ (5)	$ 1,310
General and administrative	476	1,294
Total allocated expenses from BioTime	$ 471	$ 2,604

Shared Facilities and Service Agreement

On August 17, 2017, AgeX and BioTime executed the Shared Facilities Agreement. Under the terms of the Shared Facilities Agreement, BioTime will allow AgeX to use its premises and equipment located at Alameda, California for the purpose of conducting business. BioTime will also provide accounting, billing, bookkeeping, payroll, treasury, payment of accounts payable, and other similar administrative services to AgeX. BioTime may also provide the services of attorneys, accountants, and other professionals who may also provide professional services to BioTime and its other subsidiaries. BioTime may also provide AgeX with the services of its laboratory and research personnel, including BioTime employees and contractors, for the performance of research and development work for AgeX at the premises.

BioTime charges AgeX a "Use Fee" for services received and usage of facilities, equipment, and supplies. For each billing period, BioTime prorates and allocates as a Use Fee costs incurred, as applicable, to AgeX. Such costs generally include: services of BioTime employees, consultants, and contractors; equipment use, insurance, lease expense, fees for services of accountants, lawyers, and other professionals; software; supplies; and utilities. Allocation depends on key cost drivers including actual documented use, square footage of facilities used, time spent, costs incurred by or for AgeX, or upon proportionate usage by BioTime and AgeX, as reasonably estimated by BioTime. BioTime, at its discretion, has the right to charge AgeX a 5% markup on such allocated costs and BioTime has charged this markup since the August 17, 2017 inception of the Shared Facilities Agreement with AgeX. The allocated cost of BioTime employees and contractors who provide services is based upon records maintained of the number of hours or percentage of time of such personnel devoted to the performance of services.

The Use Fee is determined and invoiced to AgeX on a monthly basis for each calendar month of each calendar year. If the Shared Facilities Agreement terminates prior to the last day of a billing period, the Use Fee will be determined for the number of days in the billing period elapsed prior to the termination of the Shared Facilities Agreement. Each invoice will be payable in full by AgeX within 30 days after receipt. Any invoice, or portion thereof, not paid in full when due will bear interest at the rate of 15% per annum until paid, unless the failure to make a payment is due to any inaction or delay in making a payment by BioTime employees from AgeX funds available for such purpose, rather than from the unavailability of sufficient funds legally available for payment or from an act, omission, or delay by any employee or agent of AgeX. To date BioTime has not charged AgeX any interest.

In addition to the Use Fees, AgeX will reimburse BioTime for any out of pocket costs incurred by BioTime for the purchase of office supplies, laboratory supplies, and other goods and materials and services for the account or use of AgeX, provided that invoices documenting such costs are delivered to AgeX with each invoice for the Use Fee. Furthermore, BioTime will have no obligation to purchase or acquire any office supplies or other goods and materials or any services for AgeX, and if any such supplies, goods, materials or services are obtained for AgeX, BioTime may arrange for the suppliers thereof to invoice AgeX directly.

The Shared Facilities Agreement will remain in effect from year to year, unless either party gives the other party written six months' notice to terminate, which BioTime may not give to AgeX prior to September 1, 2020, or unless the agreement is otherwise terminated under another provision of the agreement.

In aggregate, BioTime charged such Use Fees to AgeX and subsidiaries as follows (in thousands) :

	Year Ended December 31,	
	2018	2017
Research and development	$ 1,278	$ 1,065
General and administrative	400	615
Total Use Fees	$ 1,678	$ 1,680

As of December 31, 2018, and 2017, AgeX had $34,000 and $210,000, respectively, in related party payables to BioTime, included in current liabilities on the consolidated balance sheets.

Transactions with Juvenescence

Since October 2018, AgeX's Chief Operating Officer ("COO"), who is also an employee of Juvenescence, is devoting a majority of his time to AgeX's operations for which AgeX reimburses Juvenescence for his services on an agreed upon fixed annual amount of $272,000. As of December 31, 2018, AgeX had approximately $48,000 payable to Juvenescence for COO services rendered included in related party payables on the consolidated balance sheets.

Transactions with Ascendance.

On March 21, 2018, AgeX and Ascendance entered into an Asset Purchase Agreement (the "Asset Agreement") in which AgeX purchased for $800,000 in cash certain assets consisting in value primarily of in-process research and development assets related to stem cell derived cardiomyocytes (heart muscle cells) to be developed by AgeX. The transaction was considered an asset acquisition rather than a business combination in accordance with ASC 805-50. The $800,000 purchase price was expensed on the acquisition date as acquired in-process research and development in accordance with ASC 730-10-25(c) as those assets have no alternative future uses.

Disposition of ownership interest in Ascendance

On March 23, 2018, Ascendance was acquired by a third party in a merger through which AgeX received approximately $3.2 million in cash for its shares of Ascendance common stock. AgeX recognized a $3.2 million gain as a sale of its equity method investment in Ascendance, which is included in other income and expenses, net, for the year ended December 31, 2018. At the close of the merger, $955,000 of cash that otherwise would have been payable to the Ascendance stockholders was deposited into an escrow account where it may be held for a term of up to fifteen months. Funds held in the escrow account may be paid to the acquirer to cover indemnity payments and other obligations that may arise after the merger. After the expiration of the term of the escrow, any funds remaining in the escrow account will be disbursed, on a pro-rata basis, to the former Ascendance stockholders. As of December 31, 2018, no amounts have been recorded in the AgeX consolidated financial statements for any funds held in the escrow account.

Sale of warrants by AgeX

In February 2018, AgeX sold Warrants to certain investors, including to Alfred D. Kingsley, AgeX's then Executive Chairman and the Chairman of BioTime's Board of Directors (s ee Notes 5 and 9) .

5. Stockholders' Equity

Preferred Stock

AgeX is authorized to issue up to 5,000,000 shares of $0.0001 par value preferred stock. To date, no preferred shares are issued and outstanding.

Common Stock

AgeX has up to 100,000,000 shares of $0.0001 par value common stock authorized. The holders of AgeX's common stock are entitled to receive ratably dividends when, as, and if declared by the Board of Directors out of funds legally available. Upon liquidation, dissolution, or winding up, the holders of AgeX common stock are entitled to receive ratably the net assets available after the payment of all debts and other liabilities and subject to the prior rights of AgeX outstanding preferred shares, if any.

The holders of common stock are entitled to one vote for each share held on all matters submitted to a vote of AgeX stockholders. The holders of common stock have no preemptive, subscription, or redemption rights. The outstanding shares of common stock are fully paid and non-assessable.

On August 17, 2017, AgeX received its initial assets and cash from BioTime and certain investors. BioTime contributed certain assets and cash to AgeX in exchange for 28,800,000 shares of AgeX common stock pursuant to the Asset Contribution Agreement discussed in Note 4. As discussed in Note 2, these 28,800,000 shares of AgeX common stock have been reflected as outstanding as of the earliest reporting period presented. Concurrently with the acquisition of assets from BioTime under the Asset Contribution Agreement, AgeX sold 4,950,000 shares of its common stock for $10.0 million in cash primarily to investors other than BioTime (see Note 4).

The AgeX shares were offered and sold without registration under the Securities Act of 1933, as amended (the "Securities Act"), in reliance on exemptions from registration under Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D and Regulation S thereunder. AgeX has agreed to use commercially reasonable efforts to register the shares of AgeX common stock issued to the AgeX investors for sale under the Securities Act.

See Note 4 for Related Party Transactions with BioTime that impacted AgeX's consolidated statements of stockholders' equity for the years ended December 31, 2018 and 2017.

On June 7, 2018, AgeX sold 2.0 million shares of common stock for $2.50 per share to Juvenescence for aggregate cash proceeds to AgeX of $5.0 million.

On August 13, 2018, AgeX issued 80,000 shares with an approximate value of $240,000 as part of the consideration paid to Escape for the asset acquisition discussed in Note 3.

As of December 31, 2018 and December 31, 2017, there were 35,830,000 (see Note 9) and 33,750,000 shares of AgeX common stock issued and outstanding, respectively.

Sale of Warrants by AgeX

On February 28, 2018, AgeX sold Warrants to purchase 1,473,600 shares of AgeX common stock for $0.50 per Warrant for aggregate cash proceeds to AgeX of $736,800, which included $124,300 from Alfred D. Kingsley, AgeX's then Executive Chairman and the Chairman of BioTime's Board of Directors. On July 10, 2018, AgeX sold additional Warrants to purchase 526,400 shares of common stock for $0.50 per warrant for aggregate net cash proceeds to AgeX of $263,200. The Warrants were exercisable at $2.50 per share. See Note 9 concerning the exercise and expiration of the Warrants. The Warrants were classified as equity since, among other factors, they were not redeemable, could not be settled in cash or other assets and required settlement by issuing a fixed number of shares of AgeX common stock. The Warrants were sold at fair value determined on the Binomial Lattice option pricing model on the issuance date, with certain management assumptions, which included the timing of an initial public offering of AgeX common stock, peer-group volatility, term to maturity, price cap and AgeX current and future stock prices.

6. Stock-based Compensation

Equity Incentive Plan

Under the 2017 Equity Incentive Plan (the "Plan"), AgeX reserved 4,000,000 shares of common stock for the grant of stock options or the sale of restricted stock ("Restricted Stock") or for the settlement of hypothetical units issued with reference to common stock ("Restricted Stock Units"). AgeX may also grant stock appreciation rights ("SARs") under the Plan. The Plan also permits AgeX to issue such other securities as its Board of Directors (the "Board") or the Compensation Committee (the "Committee") administering the Plan may determine. Awards of stock options, Restricted Stock, SARs, and Restricted Stock Units ("Awards") may be granted under the Plan to AgeX employees, directors, and consultants.

Awards may vest and thereby become exercisable or have restrictions on forfeiture lapse on the date of grant or in periodic installments or upon the attainment of performance goals, or upon the occurrence of specified events.

No person shall be granted, during any one year period, options to purchase, or SARs with respect to, more than 1,000,000 shares in the aggregate, or any Awards of Restricted Stock or Restricted Stock Units with respect to more than 500,000 shares in the aggregate. If an Award is to be settled in cash, the number of shares on which the Award is based shall not count toward the individual share limit.

No Awards may be granted under the Plan more than ten years after the date upon which the Plan was adopted by the Board, and no options or SARS granted under the Plan may be exercised after the expiration of ten years from the date of grant.

Stock Options

Options granted under the Plan may be either "incentive stock options" within the meaning of Section 422(b) of the Internal Revenue Code of 1986, as amended (the "Code"), or "non-qualified" stock options that do not qualify incentive stock options. Incentive stock options may be granted only to AgeX employees and employees of subsidiaries. The exercise price of stock options granted under the Plan must be equal to the fair market of AgeX common stock on the date the option is granted. In the case of an optionee who, at the time of grant, owns more than 10% of the combined voting power of all classes of AgeX stock, the exercise price of any incentive stock option must be at least 110% of the fair market value of the common stock on the grant date, and the term of the option may be no longer than five years. The aggregate fair market value of common stock (determined as of the grant date of the option) with respect to which incentive stock options become exercisable for the first time by an optionee in any calendar year may not exceed $100,000.

The exercise price of an option may be payable in cash or in common stock having a fair market value equal to the exercise price, or in a combination of cash and common stock, or other legal consideration for the issuance of stock as the Board or Committee may approve.

Generally, options will be exercisable only while the optionee remains an employee, director or consultant, or during a specific period thereafter, but in the case of the termination of an employee, director, or consultant's services due to death or disability, the period for exercising a vested option shall be extended to the earlier of 12 months after termination or the expiration date of the option.

Restricted Stock and Restricted Stock Units

In lieu of granting options, AgeX may enter into purchase agreements with employees under which they may purchase or otherwise acquire Restricted Stock or Restricted Stock Units subject to such vesting, transfer, and repurchase terms, and other restrictions. The price at which Restricted Stock may be issued or sold will be not less than 100% of fair market value. Employees or consultants, but not executive officers or directors, who purchase Restricted Stock may be permitted to pay for their shares by delivering a promissory note or an installment payment agreement that may be secured by a pledge of their Restricted Stock. Restricted Stock may also be issued for services actually performed by the recipient prior to the issuance of the Restricted Stock. Unvested Restricted Stock for which AgeX has not received payment may be forfeited, or AgeX may have the right to repurchase unvested shares upon the occurrence of specified events, such as termination of employment.

Subject to the restrictions set with respect to the particular Award, a recipient of Restricted Stock generally shall have the rights and privileges of a stockholder, including the right to vote the Restricted Stock and the right to receive dividends; provided that, any cash dividends and stock dividends with respect to the Restricted Stock shall be withheld for the recipient's account, and interest may be credited on the amount of the cash dividends withheld. The cash dividends or stock dividends so withheld and attributable to any particular share of Restricted Stock (and earnings thereon, if applicable) shall be distributed to the recipient in cash or, at the discretion of the Board or Committee, in shares of common stock having a fair market value equal to the amount of such dividends, if applicable, upon the release of restrictions on the Restricted Stock and, if the Restricted Stock is forfeited, the recipient shall have no right to the dividends.

The terms and conditions of a grant of Restricted Stock Units shall be determined by the Board or Committee. No shares of common stock shall be issued at the time a Restricted Stock Unit is granted. A recipient of Restricted Stock Units shall have no voting rights with respect to the Restricted Stock Units. Upon the expiration of the restrictions applicable to a Restricted Stock Unit, AgeX will either issue to the recipient, without charge, one share of common stock per Restricted Stock Unit or cash in an amount equal to the fair market value of one share of common stock.

At the discretion of the Board or Committee, each Restricted Stock Unit (representing one share of common stock) may be credited with cash and stock dividends paid in respect of one share ("Dividend Equivalents"). Dividend Equivalents shall be withheld for the recipient's account, and interest may be credited on the amount of cash Dividend Equivalents withheld. Dividend Equivalents credited to a recipient's account and attributable to any particular Restricted Stock Unit (and earnings thereon, if applicable) shall be distributed in cash or in shares of common stock having a fair market value equal to the amount of the Dividend Equivalents and earnings, if applicable, upon settlement of the Restricted Stock Unit. If a Restricted Stock Unit is forfeited, the recipient shall have no right to the related Dividend Equivalents.

SARs

An SAR is the right to receive, upon exercise, an amount payable in cash or shares, or a combination of shares and cash, equal to the number of shares subject to the SAR that is being exercised, multiplied by the excess of (a) the fair market value of a common share on the date the SAR is exercised, over (b) the exercise price specified in the SAR Award agreement. SARs may be granted either as free standing SARs or in tandem with options. No SAR may be exercised later than 10 years after the date of grant.

The exercise price of an SAR shall not be less than 100% of the fair market value of one share of common stock on the date of grant. An SAR granted in conjunction with an option shall have the same exercise price as the related option, shall be transferable only upon the same terms and conditions as the related option, and shall be exercisable only to the same extent as the related option; provided, however, that the SAR by its terms shall be exercisable only when the fair market value per share exceeds the exercise price per share of the SAR or related option. Upon any exercise of an SAR granted in tandem with an option, the number of shares for which the related option shall be exercisable shall be reduced by the number of shares for which the SAR has been exercised. The number of shares for which an SAR issued in tandem with an option shall be exercisable shall be reduced by the number of shares for which the related option has been exercised.

Options Granted

A summary of AgeX stock option activity under the Plan and related information follows (in thousands except weighted average exercise price):

Options	Shares Available for Grant	Number of Options Outstanding	Weighed Average Exercise Price
Outstanding at January 1, 2017	-	-	$ -
Increase in option pool	4,000		
Granted	(1,239)	1,239	2.00
Outstanding at December 31, 2017	2,761	1,239	$ 2.00
Granted	(1,038)	1,038	2.91
Forfeited	8	(8)	2.00
Outstanding at December 31, 2018	1,731	2,269	2.42
Exercisable at December 31, 2018		739	$ 2.02

There were no exercises of stock options during the years ended December 31, 2018 and 2017.

Total proceeds if all options granted and outstanding as of December 31, 2018 were exercised would be approximately $5.5 million.

At December 31, 2018, AgeX had approximately $2.55 million of total unrecognized compensation expense related to the Plan that will be recognized over a weighted-average period of 3.22 years.

The aggregate intrinsic value of options outstanding was $1.3 million and options exercisable was $0.7 million as of December 31, 2018.

Stock-based Compensation Expense

AgeX recorded stock-based compensation expense in the following categories on the accompanying consolidated statements of operations for the years ended December 31, 2018 and 2017 (in thousands):

	Year Ended December 31,	
	2018	2017 [1]
Research and development	$ 148	$ 245
General and administrative	1,325	507
Total stock-based compensation expense	$ 1,473	$ 752

(1) Reflects the effect of the LifeMap Solutions transfer to BioTime on June 6, 2017 discussed in Notes 1 and 4.

(2) AgeX did not have an equity incentive plan until July 2017, accordingly, consolidated stock-based compensation expense for the year ended December 31, 2017 consists substantially of stock-based compensation allocated from BioTime for AgeX's carve-out presentation purposes, principally related to stock-based compensation of former BioTime employees transferred to AgeX, and stock-based compensation of AgeX's subsidiaries, including LifeMap Solutions, that have their own equity plans.

The weighted-average estimated fair value of stock options granted during the years ended December 31, 2018 and 2017 was $1.99 per share and $1.31 per share, respectively, using the Black-Scholes option pricing model with the following weighted-average assumptions:

	Year Ended December 31,	
	2018	2017
Expected life (in years)	6.05	5.84
Risk-free interest rates	2.99%	2.04%
Volatility	76.4%	74.9%
Dividend yield	-%	-%

The determination of stock-based compensation is inherently uncertain and subjective and involves the application of valuation models and assumptions requiring the use of judgment. If AgeX had made different assumptions, its stock-based compensation expense and net loss for the years ended December 31, 2018 and 2017 may have been significantly different. See Note 2 for a discussion of the factors used in determining these assumptions.

AgeX does not recognize deferred income taxes for incentive stock option compensation expense and records a tax deduction only when a disqualified disposition has occurred.

7. Income Taxes

On December 22, 2017, in response to the enactment of the 2017 Tax Act (see Note 2), the SEC staff issued SAB 118 that allows AgeX to record provisional amounts during a measurement period not to extend beyond one year of the enactment date. The repatriation tax is based primarily on LifeMap Sciences Ltd., an Israeli subsidiary of LifeMap Sciences (see Note 4), accumulated foreign earnings and profits that LifeMap Sciences previously excluded from U.S. income taxes. As a result, LifeMap Sciences included $227,000 in foreign earnings in federal income for the year ended December 31, 2017. The federal taxable income was offset by operating losses and resulted in no federal income tax due. AgeX applied the guidance in SAB 118 when accounting for the enactment-date effects of the 2017 Tax Act during the years ended December 31, 2018 and 2017. As of December 31, 2018, AgeX completed its accounting for all the enactment-date income tax effects of the 2017 Tax Act discussed below.

AgeX remeasured certain deferred tax assets and liabilities based on the enacted tax rate at which they are expected to reverse in the future. The estimated, tax effected, amount related to the remeasurement of these balances was a reduction of AgeX's net deferred tax assets of $3.9 million with a corresponding decrease in the valuation allowance by the same amount, recognized as of December 31, 2017,

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. As of December 31, 2017, the federal portion of the deferred tax assets and liabilities for 2017 were re-rated from 34% to 21% pursuant to the 2017 Tax Act. Accordingly, the federal portion of the deferred tax assets and liabilities for all periods presented are rated at 21%.

The primary components of the net deferred tax assets and liabilities as of December 31, 2018 and 2017 were as follows (in thousands):

	December 31,	
Deferred tax assets/(liabilities):	2018	2017
Net operating loss carryforwards	$ 9,893	$ 8,367
Research and development credit carryforwards	1,734	1,658
Patents and fixed assets	292	9
Stock-based compensation	241	82
Equity Investments	0	232
Other, net	83	(302)
Valuation allowance	(12,243)	(10,046)
Total net deferred tax assets	$ -	$ -

A valuation allowance is provided when it is more likely than not that all or some portion of the deferred tax assets will not be realized. AgeX established a full valuation allowance for all periods presented due to the uncertainty of realizing future tax benefits from its net operating loss carryforwards and other deferred tax assets. Accordingly, no tax provision or benefit was recorded for any period presented.

Income taxes differed from the amounts computed by applying the U.S. federal income tax rate indicated to pretax losses from operations as a result of the following:

	December 31,	
	2018	2017
Computed tax benefit at federal statutory rate	21%	34%
Research and development and other credits	1%	2%
Rerate of federal net deferred tax assets	-%	(58%)
State tax benefit, net of effect on federal income taxes	3%	4%
Permanent differences	(1%)	(4%)
Change in valuation allowance	(23%)	22%
Foreign rate differential	(1%)	-%
	-%	-%

As of December 31, 2018, AgeX has net operating loss carryforwards of approximately $31.5 million for U.S. federal income tax purposes. Of this amount, $8.7 million is attributable to LifeMap Sciences, which includes $2.1 million in NOLs generated while it was included in the consolidated BioTime tax group and would be available to offset income of AgeX in the future. The remaining LifeMap Sciences' NOLs of $6.6 million are attributable to NOLs generated for the tax years during which LifeMap Sciences filed a separate federal income tax return and, accordingly, those NOLs are available only to LifeMap Sciences' taxable income within AgeX in future years. In general, NOLs and other tax credit carryforwards generated by legal entities in a consolidated federal tax group are available to other members of the tax group depending on the nature of the transaction that a member may enter into while still in the consolidated federal tax group. However, under the Tax Matters Agreement between BioTime and AgeX, any use of a member's NOLs and other tax credit carryforwards by the other member is subject to reimbursement by the benefiting member for the actual tax benefit realized. Since the August 30, 2018 deconsolidation of AgeX and to date, neither BioTime nor AgeX has used the tax attributes of the other.

On June 6, 2017, BioTime and LifeMap Sciences entered into a Debt Conversion Agreement whereby BioTime acquired additional stock in LifeMap Sciences (see Note 4) and other assets, including intellectual property in exchange for related party payable of approximately $8.8 million owed to BioTime. Consistent with the financial reporting impacts discussed in Note 4, LifeMap Sciences recorded the tax effect of the transactions in equity instead of the tax provision in accordance with ASC 740-20-45-11(g), which requires that the tax effects of all changes in tax bases of assets and liabilities caused by transactions among or with stockholders be included in equity. In connection with this transaction, LifeMap Sciences utilized approximately $3.7 million in net operating loss carryforwards with a corresponding release of the valuation allowance recorded through equity in accordance with ASC 740-20-45-11(g).

For income tax purposes, the purchase by BioTime of LifeMap Sciences' intellectual property and other assets resulted in a taxable gain to LifeMap Sciences of $3.7 million for the year ended December 31, 2017. Although LifeMap Sciences had sufficient net operating loss carryforwards to offset the entire gain, it incurred a federal alternative minimum tax payable of $22,000 as of December 31, 2017. As previously noted under the 2017 Tax Act, corporations are no longer subject to the AMT, effective for taxable years beginning after December 31, 2017. To the extent a company has an AMT credit from a prior year, the company can carry the credit forward to offset regular tax. To the extent the company does not have a federal tax liability, a portion of the AMT credit is refundable each year starting in 2018, with any remaining balance fully refundable in 2021. As LifeMap Sciences will ultimately receive a full refund of the current AMT payable, fully offsetting the current provision, there is no tax provision or benefit recorded for the year ended December 31, 2017.

On March 23, 2018, Ascendance was acquired by a third party in a merger through which AgeX received approximately $3.2 million in cash for its shares of Ascendance common stock. For financial reporting purposes, AgeX recognized a $3.2 million gain as a sale of its equity method investment in Ascendance (see Note 4). The sale was a taxable transaction to AgeX generating a taxable gain of approximately $2.2 million. AgeX has sufficient current year losses from operations to offset the entire gain resulting in no income taxes due.

As further discussed in Note 1, on August 30, 2018, BioTime consummated the sale of 14,400,000 shares of common stock of AgeX owned by BioTime to Juvenescence. AgeX received no proceeds from that transaction. Prior to the transaction, Juvenescence owned 5.6% of AgeX's issued and outstanding common stock. Upon completion of the transaction, BioTime's ownership in AgeX was reduced from 80.4% to 40.2% of AgeX's issued and outstanding shares of common stock, and Juvenescence's ownership in AgeX was increased from 5.6% to 45.8% of AgeX's issued and outstanding shares of common stock. Accordingly, beginning on August 31, 2018, AgeX will no longer be included in BioTime's consolidated federal and state income tax returns as AgeX will file its own, standalone returns with its subsidiaries.

As of December 31, 2018, AgeX has net operating losses of approximately $32.5 million for California purposes. As AgeX and its subsidiaries have been included in the combined California tax return with BioTime, up to the date of deconsolidation on August 30, 2018, those state net operating losses will remain with AgeX. In general, NOLs and other tax credit carryforwards generated by legal entities in a combined state tax group are available to other members of the tax group depending on the nature of the transaction that a member may enter into while still in the combined state tax group. However, under the Tax Matters Agreement between BioTime and AgeX, any use of a member's NOLs and other tax credit carryforwards by the other member is subject to reimbursement by the benefiting member for the actual tax benefit realized. Federal net operating losses generated on or prior to December 31, 2017, expire in varying amounts between 2030 and 2037, while federal net operating losses generated after December 31, 2017, carryforward indefinitely. The state net operating losses expire in varying amounts between 2028 and 2038.

As of December 31, 2018, AgeX has research and development tax credit carryforwards for federal and state tax purposes of $903,000 and $831,000, respectively. Although this LifeMap Sciences credit has been included as part of the AgeX credit carryforwards, LifeMap Sciences filed a separate federal income tax return prior to January 1, 2018 and its prior research credit carryforwards may not be used to offset federal taxable income of AgeX. As AgeX and its subsidiaries were included in the California combined return with BioTime, these credits noted above will remain with AgeX. The federal tax credits expire between 2028 and 2038 , while the state tax credits have no expiration date.

A valuation allowance is provided when it is more likely than not that some or all of the deferred tax assets will not be realized. AgeX established a full valuation allowance for all periods presented due to the uncertainty of realizing future tax benefits from its net operating loss carryforwards and other deferred tax assets. The change in the valuation allowance was an increase of $2.2 million from 2017 to 2018.

Other Income Tax Matters

Internal Revenue Code Section 382 places a limitation ("Section 382 Limitation") on the amount of taxable income that can be offset by net operating loss ("NOL") carryforwards after a change in control (generally greater than 50% change in ownership within a three-year period) of a loss corporation. California has similar rules. Generally, after a control change, a loss corporation cannot deduct NOL carryforwards in excess of the Section 382 Limitation. Due to these "change in ownership" provisions, utilization of the NOL and tax credit carryforwards may be subject to an annual limitation regarding their utilization against taxable income in future periods.

AgeX and its subsidiaries may be subject to potential income tax examination by U.S. federal or states authorities. These potential examinations may include inquiries regarding the timing and amount of deductions, and compliance with U.S. federal and state tax laws. In general, the AgeX legal entity is not subject to tax examination by major taxing authorities since AgeX has not yet filed any income tax returns as it was formed in 2017. For AgeX subsidiaries that did operate and filed separate tax returns, those entities are not subject to tax examination by major taxing authorities for tax years before 2014. However, the taxing authorities may still make adjustments to the net operating loss and credit carryforwards used in open years by AgeX or any of its subsidiaries. Any potential examinations may include inquiries regarding the timing and amount of deductions, and compliance with U.S. federal and state tax laws.

8. Commitments and Contingencies

AgeX had no commitments other than those under the Shared Facilities and Services Agreement described in Note 4. The minimum fixed payments due under the Shared Facilities Agreement are approximately $150,000 per month (see Note 9).

Litigation – General

AgeX is subject to various claims and contingencies in the ordinary course of its business, including those related to litigation, business transactions, employee-related matters, and others. When AgeX is aware of a claim or potential claim, it assesses the likelihood of any loss or exposure. If it is probable that a loss will result and the amount of the loss can be reasonably estimated, AgeX will record a liability for the loss. If the loss is not probable or the amount of the loss cannot be reasonably estimated, AgeX discloses the claim if the likelihood of a potential loss is reasonably possible and the amount involved could be material. AgeX is not aware of any claims likely to have a material adverse effect on its financial condition or results of operations.

Employment Contracts

AgeX has entered into employment contracts with certain executive officers. Under the provisions of the contracts, AgeX may be required to incur severance obligations for matters relating to changes in control, as defined, and involuntary terminations.

Indemnification

In the normal course of business, AgeX may provide indemnifications of varying scope under AgeX's agreements with other companies or consultants, typically for AgeX's pre-clinical programs. Pursuant to these agreements, AgeX will generally agree to indemnify, hold harmless, and reimburse the indemnified parties for losses and expenses suffered or incurred by the indemnified parties arising from claims of third parties in connection with AgeX's pre-clinical programs. Indemnification provisions could also cover third party infringement claims with respect to patent rights, copyrights, or other intellectual property pertaining to AgeX's pre-clinical programs. The term of these indemnification agreements will generally continue in effect after the termination or expiration of the particular research, development, services, or license agreement to which they relate. The potential future payments AgeX could be required to make under these indemnification agreements will generally not be subject to any specified maximum amount. Historically, AgeX has not been subject to any claims or demands for indemnification. AgeX also maintains various liability insurance policies that limit AgeX's financial exposure. As a result, AgeX believes the fair value of these indemnification agreements is minimal. Accordingly, AgeX has not recorded any liabilities for these agreements as of December 31, 2018 and 2017.

9. Subsequent Events

Pursuant to the Warrant Agreement governing the Warrants, AgeX's Board of Directors set March 18, 2019 as the expiration date of the Warrants and on or before that date, holders of the Warrants purchased 1.8 million shares of common stock through the exercise of the Warrants for $4.5 million in aggregate proceeds to AgeX. Any Warrants not exercised expired on that date.

On March 21, 2019, AgeX entered into a sublease of an office and research facility (the "New Facility") comprising approximately 23,911 square feet of space in a building in an office and research park at 965 Atlantic Avenue, Alameda, California. AgeX plans to operate its principal offices and research laboratory at the New Facility. The commencement of the sublease and AgeX's obligation to pay rent is subject to the conditions that the master landlord approves the sublease, AgeX's plans for constructing certain laboratory improvements, and AgeX's use of certain reagents in the laboratory in the New Facility.

Base monthly rent will be $35,866.50 for the initial 12 months of the sublease term and then will increase to $36,942.50. In addition, AgeX will pay real property taxes, insurance and operating expenses pertaining to the building in which the New Facility is located. The sublease term will expire on December 31, 2020.

In connection with the sublease, AgeX will also purchase certain laboratory and other equipment from the sublessor for $40,000.

AgeX will be responsible for the maintenance and repair of the New Facility, including electrical, plumbing, HVAC and other systems serving the New Facility but excluding structural and other external portions of the building in which the New Facility is located, and other external areas such as parking, landscaping and walkways associated with the building.

AgeX will be in default under the sublease, and the sublandlord may terminate the sublease and may exercise other remedies against AgeX for losses and damages under the sublease and applicable law, if any one or more of the following events occurs: (a) AgeX fails to pay any rent or any other sum required to be paid under the sublease for a period of ten (10) days after written notice of delinquency is delivered by the sublandlord; provided, however, that if AgeX fails to pay rent or other sums due within ten (10) days of the date due three or more times during any twelve month period, then any subsequent failure to pay any rent or other sum when due shall constitute a default without the requirement of any written notice; (b) a material default by AgeX in the performance of any other terms, covenants or conditions of the sublease where the failure continues for thirty (30) days after written notice from the sublandlord; provided that if AgeX defaults in the performance of the same obligation three or more times in any twelve month period and notice from the sublandlord was given in each instance, no cure period shall thereafter be applicable; (c) AgeX becomes bankrupt or insolvent, makes an assignment for the benefit of creditors, bankruptcy or reorganization proceedings are commenced by or against AgeX, and in the case of an involuntary proceeding are not discharged within 60 days, the appointment of a receiver for a substantial part of AgeX's assets, or the levy upon the sublease or AgeX's estate in the sublease by attachment or execution, or (d) AgeX abandons the New Facility.

AgeX has agreed to indemnify the sublandlord against certain liabilities arising under laws pertaining to hazardous materials. The indemnity of the sublandlord will pertain to any deposit, spill, discharge or release of hazardous materials that occurs during the term of the sublease or from AgeX's failure to comply with requirements of governmental authorities.

The sublease requires AgeX to maintain certain liability and other insurance and contains customary provisions pertaining to matters such as damage or destruction of the New Facility, taking by eminent domain or similar process, restrictions on subletting and assignment, and other matters.

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

Not applicable.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

It is management's responsibility to establish and maintain adequate internal control over all financial reporting pursuant to Rule 13a-15 under the Exchange Act. Our management, including our principal executive officer and our principal financial officer, have reviewed and evaluated the effectiveness of our disclosure controls and procedures as of the end of our fourth quarter. Following this review and evaluation , management collectively determined that our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act (i) is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms; and (ii) is accumulated and communicated to management, including our chief executive officer and our chief financial officer, as appropriate to allow timely decisions regarding required disclosure.

This Report does not include a report of management's assessment regarding internal control over financial reporting or an attestation report of AgeX's registered public accounting firm due to a transition period established by rules of the Securities and Exchange Commission for newly public companies.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the fourth quarter of our fiscal year ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None

PART III

Item10. Directors, Executive Officers, and Corporate Governance

Information about our directors and each nominee for election as a director is contained under the caption "Election of Directors" in our Proxy Statement for our 2019 Annual Meeting of Stockholders and is incorporated herein by reference. Information about our executive officers, committees of the Board of Directors, and compensation of directors is reported under the caption "Corporate Governance" in our Proxy Statement for our 2019 Annual Meeting of Stockholders and is incorporated herein by reference.

We have a written Code of Business Conduct and Ethics (the "Code of Ethics") that applies to our principal executive officer, our principal financial officer and accounting officer, our other executive officers, our other employees, and our directors. The purpose of the Code of Ethics is to promote (i) honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships; (ii) full, fair, accurate, timely, and understandable disclosure in reports and documents that we file with or submit to the Securities and Exchange Commission and in our other public communications; (iii) compliance with applicable governmental rules and regulations; (iv) prompt internal reporting of violations of the Code of Ethics to an appropriate person or persons identified in the Code; and (v) accountability for adherence to the Code. A copy of our Code of Ethics has been posted on our internet website and can be found at *www.agexinc.com* . If we amend or waive a provision of our Code of Ethics that applies to our chief executive officer or chief financial officer, we will post the amended Code of Ethics or information about the waiver on our internet website.

Information about our compliance with Section 16(a) of Exchange Act reported under the caption "Compliance with Section 16(a) of the Securities Exchange Act of 1934" in our Proxy Statement for our 2019 Annual Meeting of Stockholders is incorporated herein by reference.

Item 11. Executive Compensation

Information on compensation of our executive officers reported under the caption "Executive Compensation" in our Proxy Statement for our 2019 Annual Meeting of Stockholders is incorporated herein by reference.

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

Information on the number of common shares of AgeX beneficially owned by each stockholder known by us to be the beneficial owner of 5% or more of our common shares, and by each director and named executive officer, and by all directors and named executive officers as a group, contained under the caption "Principal Stockholders" in our Proxy Statement for our 2019 Annual Meeting of Stockholders is incorporated herein by reference.

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

Information about transactions with related persons; reported under the caption "Principal Stockholders," and information about director independence reported under the caption "Election of Directors," in our Proxy Statement for our 2019 Annual Meeting of Stockholders is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

Information about our Audit Committee's pre-approval policy for audit services, and information on our principal accounting fees and services reported under the caption "Ratification of the Selection of Our Independent Auditors" in our Proxy Statement for our 2019 Annual Meeting of Stockholders is incorporated herein by reference.

PART IV

Item 15. Financial Statement and Exhibits

(a) Financial Statements.

The following financial statements of AgeX are filed in this Report:

Consolidated Balance Sheets
Consolidated Statements of Operations
Consolidated Statements of Comprehensive Loss
Consolidated Statements of Stockholders' Equity (Deficit)
Consolidated Statements of Cash Flows

Notes to Consolidated Financial Statements

(b) Exhibits.

Exhibit Number	Exhibit Description
2.1	Asset Purchase Agreement, dated as of August 13, 2018, by and between Escape Therapeutics, Inc. and AgeX Therapeutics, Inc. #+ Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-2 filed with the Securities and Exchange Commission on August 30, 2018)
3.1	Certificate of Incorporation (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) filed with the Securities and Exchange Commission on June 8, 2018)
3.2	Bylaws (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) filed with the Securities and Exchange Commission on June 8, 2018)
4.1	Specimen of Common Stock Certificate (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-2 filed with the Securities and Exchange Commission on August 30, 2018)
4.2	Warrant Agreement, dated February 28, 2018, including form of warrant*
10.1	Asset Contribution and Separation Agreement, dated August 17, 2017, between BioTime, Inc. and AgeX Therapeutics, Inc. #. (Incorporated by reference to BioTime's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017)
10.2	License Agreement, dated August 17, 2017, between BioTime, Inc. and AgeX Therapeutics, Inc.# (Incorporated by reference to BioTime's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017)
10.3	Option to Purchase Shares of AgeX Therapeutics, Inc., dated August 4, 2017, granted by BioTime, Inc. to Alfred D. Kingsley † (Incorporated by reference to BioTime's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017)
10.4	AgeX Therapeutics, Inc. 2017 Equity Incentive Plan † (Incorporated by reference to AgeX Therapeutics, Inc. 's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on January 30, 2019).
10.5	Form of AgeX Therapeutics, Inc. Employee Stock Option Agreement † (Incorporated by reference to AgeX Therapeutics, Inc. 's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on January 30, 2019)
10.6	Form of AgeX Therapeutics, Inc. Non-Employee Director Stock Option Agreement † (Incorporated by reference to AgeX Therapeutics, Inc. 's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on January 30, 2019)
10.7	Form of AgeX Therapeutics, Inc. Restricted Stock Agreement † (Incorporated by reference to AgeX Therapeutics, Inc. 's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on January 30, 2019)

10.8	Form of AgeX Therapeutics, Inc. Restricted Stock Unit Agreement † (Incorporated by reference to AgeX Therapeutics, Inc. 's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on January 30, 2019)
10.9	Asset Purchase Agreement, dated March 21, 2018, between Ascendance Biotechnology, Inc. and AgeX Therapeutics, Inc. #+ (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-1 filed with the Securities and Exchange Commission on July 19, 2015)
10.10	Sublicense Agreement, dated September 26, 2017, between BioTime, Inc. and AgeX Therapeutics, Inc. # (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-1 filed with the Securities and Exchange Commission on July 19, 2015)
10.11	First Amendment, dated November 8, 2017, to License Agreement, dated August 17, 2017, between BioTime, Inc. and AgeX Therapeutics, Inc. (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-1 filed with the Securities and Exchange Commission on July 19, 2015)
10.12	Sublicense Agreement, dated August 17, 2017, by and among OrthoCyte Corporation, BioTime, Inc. and AgeX Therapeutics, Inc. # (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-1 filed with the Securities and Exchange Commission on July 19, 2015)
10.13	First Amendment, dated November 8, 2017, to Sublicense Agreement, dated August 17, 2017, between OrthoCyte Corporation, BioTime, Inc. and AgeX Therapeutics, Inc. (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-1 filed with the Securities and Exchange Commission on July 19, 2015)
10.14	License Agreement, dated August 17, 2017, by and between ES Cell International Ptd Ltd., BioTime, Inc. and AgeX Therapeutics, Inc. # (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-1 filed with the Securities and Exchange Commission on July 19, 2015)
10.15	Shared Facilities and Services Agreement, dated August 17, 2017, between BioTime, Inc. and AgeX Therapeutics, Inc., as amended (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-1 filed with the Securities and Exchange Commission on July 19, 2015)
10.16	Employee Matters Agreement, dated August 17, 2017, between BioTime, Inc. and AgeX Therapeutics, Inc. (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-1 filed with the Securities and Exchange Commission on July 19, 2015)
10.17	Employment Agreement, by and between AgeX Therapeutics, Inc. and Hal Sternberg, dated August 21, 2017† (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) filed with the Securities and Exchange Commission on June 8, 2018)
10.18	Tax Matters Agreement, dated August 17, 2017, between BioTime, Inc. and AgeX Therapeutics, Inc. Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-1 filed with the Securities and Exchange Commission on July 19, 2015)
10.19	Form of Registration Rights Agreement. (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-1 filed with the Securities and Exchange Commission on July 19, 2015)
10.20	License Agreement, dated August 17, 2017, between BioTime, Inc. and AgeX Therapeutics, Inc. # (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-1 filed with the Securities and Exchange Commission on July 19, 2015)
10.21	Separation Agreement, effective October 15, 2018, between Alfred Kingsley and AgeX Therapeutics, Inc. (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-3 filed with the Securities and Exchange Commission on October 22, 2018)
10.22	Employment Agreement, by and between AgeX Therapeutics, Inc. and Michael D. West, dated October 18, 2018. † (Incorporated by reference to AgeX Therapeutics, Inc. 's Form 10-12(b) A-3 filed with the Securities and Exchange Commission on October 22, 2018)

21.1	List of Subsidiaries *
23.1	Consent of OUM & Co. LLP *
31	Rule 13a-14(a)/15d-14(a) Certification *
32	Section 1350 Certification *

* Filed herewith.

† Indicates management contract or compensatory plan.

Confidential treatment has been granted with respect to portions of this exhibit (indicated by asterisks) and those portions have been separately filed by BioTime, Inc. with the Securities and Exchange Commission.

+ Certain schedules and exhibits to this agreement have been omitted in accordance with Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule and/or exhibit will be furnished to the Securities and Exchange Commission on request.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized on the 1 st day of April 2019.

AGEX THERAPEUTICS, INC.

By: /s/ *Michael D. West*
Michael D. West
Chief Executive Officer

Signature	Title	Date
/s/ *Michael D. West* MICHAEL D. WEST	President and Chief Executive Officer and Director (Principal Executive Officer)	April 1, 2019
/s/ *Russell Skibsted* RUSSELL SKIBSTED	Chief Financial Officer (Principal Financial and Accounting Officer)	April 1, 2019
/s/ *Gregory Bailey* GREGORY BAILEY	Director	April 1, 2019
/s/ *Annalisa Jenkins* ANNALISA JENKINS	Director	April 1, 2019
/s/ *John Mauldin* JOHN MAULDIN	Director	April 1, 2019
/s/ *Michael H. Mulroy* MICHAEL H. MULROY	Director	April 1, 2019

Warrant Agreement

Dated as of February 28, 2018

WARRANT AGREEMENT, (this "Agreement") dated as of February 28, 2018, by AgeX Therapeutics, Inc., a Delaware corporation (the "Company"), for the benefit of each registered holder of a Warrant described herein (a "Holder").

Section 1. Issuance of Warrants .

1.1 Number of Warrants . The Company is issuing to the original Holders named on Schedule 1 Warrants to purchase up to an aggregate of 2,000,000 shares of Company Common Stock ("Warrant Shares") .

1.2 Expiration Date. The right to exercise the Warrants shall expire on, and the Warrants may not be exercised after, the Expiration Date. The Expiration Date shall be the earliest to occur of (a) 5:00 p.m. New York time on February 28, 2021 , (b) 5:00 p.m. New York time on the date specified as the Expiration Date in a notice from the Company to each Warrant holder given after the "VWAP" of the Common Stock has exceeded $3.75 with an average trading volume greater than 50,000 shares for a period of 20 Trading Days out of 30 consecutive Trading Days, provided that the Expiration Date shall not be earlier than ten (10) Business Days after the date such notice is given to the Warrant holders and shall not occur earlier than January 31, 2019, and (c) 5:00 p.m. New York time on the date on which a Change of Control occurs.

1.3 Form of Warrant . The text of the Warrants and of the Purchase Form shall be substantially as set forth in Exhibit A attached hereto.

1.4 Signatures; Date of Warrants . The Warrants shall be executed on behalf of the Company by its Chief Executive Officer and attested by its Chief Financial Officer or Secretary or any Assistant Secretary. The signature of any such officers on the Warrants may be manual or facsimile. Warrants bearing the manual or facsimile signatures of individuals who were at any time the proper officers of the Company shall bind the Company, notwithstanding that such individuals or any one of them shall have ceased to hold such offices prior to the delivery of such Warrants or did not hold such offices on the date of this Agreement. In the event that the Company shall appoint a warrant agent to act on its behalf in connection with the division, transfer, exchange or exercise of Warrants, the Warrants issued after the date of such appointment shall be dated as of the date of countersignature thereof by the warrant agent upon division, exchange, substitution or transfer. Until such time as the Company shall appoint a warrant agent, Warrants shall be dated as of the date of execution thereof by the Company either upon initial issuance or upon division, exchange, substitution or transfer.

1.5 Countersignature of Warrants . In the event that the Company shall appoint a warrant agent to act on its behalf in connection with the division, transfer, exchange or exercise of Warrants, the Warrants issued after the date of such appointment shall be countersigned by the warrant agent (or any successor to the warrant agent then acting as warrant agent) and shall not be valid for any purpose unless so countersigned. Warrants may be countersigned, however, by the warrant agent (or by its successor as warrant agent hereunder) and may be delivered by the warrant agent, notwithstanding that the persons whose manual or facsimile signatures appear thereon as proper officers of the Company shall have ceased to be such officers at the time of such countersignature, issuance or delivery. The warrant agent (if so appointed) shall, upon written instructions of the Chief Executive Officer or the Chief Financial Officer of the Company, countersign, issue and deliver the Warrants as provided in this Agreement.

Section 2. Warrant Price . Subject to any adjustments required by Section 6, the price per share at which Warrant Shares shall be purchasable upon exercise of a Warrant (as to any particular Warrant, the "Warrant Price") shall be Two Dollars and Fifty Cents ($2.50) per share.

Section 3. Exercise of Warrants; Restrictions .

3.1 Exercise of Warrants . Subject to the terms of this Agreement, a Holder of a Warrant (including any Warrants into which a Warrant may be divided) shall have the right, which may be exercised, in whole or in part, to purchase from the Company, at the Warrant Price then in effect, the number of fully paid and nonassessable Warrant Shares determined as provided in this Agreement. The Warrants may not be exercised or transferred after the Expiration Date. A Warrant may be exercised by (i) surrender of the certificate evidencing the Warrant to be exercised, together with the form of election to purchase on the reverse thereof duly completed and signed, to the Company at its principal office (or if appointed, the principal office of the warrant agent) and (ii) payment of the Warrant Price to the Company (or if appointed, to the warrant agent for the account of the Company), for the number of Warrant Shares in respect of which the Warrant is then being exercised. Payment of the aggregate Warrant Price shall be made by bank wire transfer to the account of the Company or by bank cashier's check.

3.2 Periods During Warrants May Be Exercised. If the Company's Common Stock (or other class or series of securities comprising the Warrant Shares) is listed or traded on an Eligible Market, the Warrants may be exercised at any time on or before the Expiration Date. If the Company's Common Stock (or other class or series of securities comprising the Warrant Shares) is not listed or traded on an Eligible Market, the Warrants may be exercised only during the period commencing ten (10) Business Days prior to the Expiration Date and ending on the Expiration Date,

3.3 Issuance of Warrant Shares. Subject to Section 3.2, Section 3.4, and Section 5, following the surrender of the Warrant with the form of election to purchase on the reverse thereof duly completed and signed, and provided that payment of the Warrant Price has been received, the Company (or if appointed, the warrant agent) shall promptly cause to be issued and delivered to or upon the written order of the Holder and in such name or names as the Holder may designate, a certificate or certificates for the number of full Warrant Shares so purchased upon the exercise of such Warrant, together with cash, as provided in Section 8, in respect of any fractional Warrant Shares otherwise issuable upon such exercise. Such Warrant Share certificate or certificates shall be deemed to have been issued and any person so designated to be named therein shall be deemed to have become a holder of record of such Warrant Shares as of the date on which the Warrant with the form of election to purchase on the reverse thereof duly completed and signed and payment of the Warrant Price, as aforesaid, shall have been received by the Company (or if appointed, to the warrant agent for the account of the Company), for such Warrant Shares. In the event that a certificate evidencing the Warrant is exercised in respect of less than all of the Warrant Shares purchasable on such exercise at any time prior to the tenth Business Day prior to the Expiration Date, a new certificate evidencing the unexercised portion of the Warrant will be issued, and the warrant agent (if so appointed) is hereby irrevocably authorized to countersign and to deliver the required new Warrant certificate or certificates. The Company, whenever required by the warrant agent (if appointed), will supply the warrant agent with Warrant certificates duly executed on behalf of the Company for such purpose.

3.4 Restrictions on Exercise of Warrants .

(a) The Warrants may not be exercised unless registered under the Securities Act or an exemption from such registration is available.

(b) Unless the Warrant and Warrant Shares have been registered under the Securities Act and under any applicable state securities laws, each Person who is exercising a Warrant will be required to give written certification that such Person is an "accredited investor" or a written opinion of counsel, acceptable to the Company and to the transfer agent of the Warrant Shares, to the effect that exercise of the Warrant and the issuance of the Warrant Shares are exempt from registration under the Securities Act and under any applicable state securities laws.

(c) The Company shall be entitled to obtain, as a condition precedent to its issuance of any certificates representing Warrant Shares or any other securities issuable upon any exercise of a Warrant, a letter or other instrument from the Holder containing such covenants, representations or warranties by such Holder as reasonably deemed necessary by the Company to effect compliance by the Company with the requirements of the Securities Act and any other applicable United States federal and/or state securities laws.

(d) Any exercise, attempt to exercise, or purported exercise of a Warrant in violation of the restrictions set forth in this Section 3.4 shall be deemed null and void and of no binding effect.

(e) The Company will refuse to issue, and will issue instructions to the transfer agent and registrar of its Warrant Shares to refuse to issue, any Warrant Shares upon any exercise not made pursuant to registration under the Securities Act and applicable state securities laws, or pursuant to an available exemption from registration under the Securities Act and applicable state securities laws.

Section 4. Transferability of Warrants and Warrant Shares; Restrictions on Transfer .

4.1 Registration . Each Warrant shall be numbered and shall be registered on the books of the Company (the "Warrant Register") as issued. The Company and the warrant agent (if appointed) shall be entitled to treat the Holder of any Warrant appearing in the Warrant Register as the owner in fact of the Warrant for all purposes and shall not be bound to recognize any equitable or other claim or interest in the Warrant on the part of any other person, and shall not be liable for any registration of transfer of any Warrant which is registered or to be registered in the name of a fiduciary or the nominee of a fiduciary upon the instruction of such fiduciary, unless made with the actual knowledge that a fiduciary or nominee is committing a breach of trust in requesting such registration of transfer, or with such knowledge of such facts that its participation therein amounts to bad faith. Each Warrant shall initially be registered in the name of the Person to whom it is originally issued.

4.2 Transfer . Subject to Section 4.3, the Warrants shall be transferable only on the Warrant Register upon delivery of the Warrant certificate duly endorsed by the Holder or by the Holder's duly authorized attorney or representative, or accompanied by proper evidence of succession, assignment or authority to transfer. In all cases of transfer by an attorney, the original power of attorney or a duly certified copy thereof shall be deposited and remain with the Company (or the warrant agent, if appointed). In case of transfer by executors, administrators, guardians or other legal representatives, duly authenticated evidence of their authority shall be produced, and may be required to be deposited and remain with the Company (or the warrant agent, if appointed) in its discretion. Upon any registration of transfer, the Company shall execute and deliver (or if appointed, the warrant agent shall countersign and deliver) a new Warrant or Warrants to the Persons entitled thereto.

4.3 Restrictions on Transfer of Warrants and Warrant Shares .

(a) The Warrants, and any Warrant Shares issued upon the exercise of the Warrants, may not be sold, pledged, hypothecated, transferred or assigned, in whole or in part, unless a registration statement under the Securities Act, and under any applicable state securities laws, is effective therefor, or an exemption from such registration is then available and an opinion of counsel, acceptable to the Company and to the transfer agent or warrant agent, if any, has been rendered stating that such sale, pledge, hypothecation, transfer or assignment will not violate the Securities Act or any other United States federal or state securities laws.

(b) As a condition precedent to the registration of transfer and issuance of any certificates representing Warrants or Warrant Shares upon transfer, the Company shall be entitled to obtain a letter or other instrument from the Holder containing such covenants, representations or warranties by such Holder as reasonably deemed necessary by the Company to effect compliance by the Company with the requirements of the Securities Act and any other applicable federal and/or state securities laws.

(c) Any sale, pledge, hypothecation, transfer, or assignment of a Warrant or Warrant Shares in violation of the foregoing restrictions shall be deemed null and void and of no binding effect.

(d) The Company will issue instructions to any warrant agent that may be appointed, and to the transfer agent and registrar of its Warrant Shares, to refuse to register the transfer of any Warrant and Warrant Shares not made pursuant to registration under the Securities Act and applicable state securities laws, or pursuant to an available exemption from registration under the Securities Act and applicable state securities laws.

Section 5. Payment of Taxes . The Company will pay all documentary stamp taxes, if any, attributable to the initial issuance of Warrant Shares upon the exercise of Warrants; provided, however, that the Company shall not be required to pay any tax or taxes which may be payable in respect of any transfer involved in the issue or delivery of any Warrant or certificates for Warrant Shares in a name other than that of the registered Holder of such Warrants or Warrant Shares.

Section 6. Adjustment of Warrant Price and Number of Warrant Shares . The number and kind of securities purchasable upon the exercise of each Warrant and the Warrant Price shall be subject to adjustment from time to time upon the happening of certain events, as provided in this Section 6.

6.1 Adjustments . The number of Warrant Shares purchasable upon the exercise of each Warrant and the Warrant Price shall be subject to adjustment as follows:

(a) If the Company shall (i) pay a dividend in shares of Common Stock or make a distribution in shares of Common Stock, (ii) subdivide its outstanding shares of Common Stock, (iii) combine its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) reclassify or change its Common Stock (including any such reclassification or change in connection with a consolidation or merger in which the Company is the surviving corporation), the number of Warrant Shares purchasable upon exercise of each Warrant immediately prior thereto shall be adjusted so that the Holder of each Warrant shall be entitled to receive the kind and number of Warrant Shares or other securities of the Company or other property which the Holder would have owned or have been entitled to receive after the happening of any of the events described above, had such Warrant been exercised immediately prior to the happening of such event or any record date with respect thereto. An adjustment made pursuant to this paragraph (a) shall become effective immediately after the effective date of such event retroactive to the record date, if any, for such event.

(b) If the Company shall issue rights, options or warrants to all holders of its outstanding Common Stock, without any charge to such holders, entitling them to subscribe for or purchase shares of Common Stock at a price per share which is lower at the record date mentioned below than the then current market price per share of Common Stock, the number of Warrant Shares thereafter purchasable upon the exercise of each Warrant shall be determined by multiplying the number of Warrant Shares theretofore purchasable upon exercise of each Warrant by a fraction, of which the numerator shall be the number of shares of Common Stock outstanding on the date of issuance of such rights, options or warrants plus the number of additional shares of Common Stock offered for subscription or purchase in connection with such rights, options or warrants, and of which the denominator shall be the number of shares of Common Stock outstanding on the date of issuance of such rights, options or warrants plus the number of shares which the aggregate exercise price for the total number of shares of Common Stock issuable upon exercise of such rights, options or warrants would purchase at the current market price per share of Common Stock (as determined pursuant to paragraph (d) below) at such record date. Such adjustment shall be made whenever such rights, options or warrants are issued, and shall become effective immediately after the record date for the determination of stockholders entitled to receive such rights, options or warrants.

(c) If the Company shall distribute to all holders of its shares of Common Stock (including any distribution made in connection with a merger in which the Company is the surviving corporation) evidences of its indebtedness or assets (excluding cash, dividends or distributions payable out of consolidated earnings or earned surplus and dividends or distributions referred to in paragraph (a) above) or rights, options or warrants, or convertible or exchangeable securities containing the right to subscribe for or purchase shares of Common Stock (excluding those referred to in paragraph (b) above), then in each case the number of Warrant Shares thereafter purchasable upon the exercise of each Warrant shall be determined by multiplying the number of Warrant Shares theretofore purchasable upon the exercise of each Warrant by a fraction, of which the numerator shall be the then current market price per share of Common Stock (as determined pursuant to paragraph (d) below) on the date of such distribution, and of which the denominator shall be the then current market price per share of Common Stock, less the then fair value (as reasonably determined by the Board of Directors of the Company, whose determination shall be conclusive) of the portion of the assets or evidences of indebtedness so distributed or of such subscription rights, options or warrants, or of such convertible or exchangeable securities applicable to one share of Common Stock. Such adjustment shall be made whenever any such distribution is made, and shall become effective on the date of distribution retroactive to the record date for the determination of stockholders entitled to receive such distribution.

(d) For the purpose of any computation under paragraphs (b) and (c) of this Section 6.1, the current market price per share of Common Stock at any date shall be the VWAP of the Common Stock for the 20 consecutive Trading Days ending one Trading Day prior to the date of such computation. If the current market price of the Common Stock cannot be so determined, the Board of Directors of the Company shall reasonably determine the fair market value of the Common Stock and such value shall be deemed the current market price.

(e) No adjustment in the number of Warrant Shares purchasable hereunder shall be required unless such adjustment would require an increase or decrease of at least one percent (1%) in the number of Warrant Shares purchasable upon the exercise of each Warrant; provided, however, that any adjustments which by reason of this paragraph (e) are not required to be made shall be carried forward and taken into account in the determination of any subsequent adjustment. All calculations shall be made with respect to the number of Warrant Shares purchasable hereunder, to the nearest tenth of a share and with respect to the Warrant Price payable hereunder, to the nearest whole cent.

(f) Whenever the number of Warrant Shares purchasable upon the exercise of each Warrant is adjusted, as herein provided, the Warrant Price payable upon exercise of each Warrant shall be adjusted by multiplying such Warrant Price immediately prior to such adjustment by a fraction, of which the numerator shall be the number of Warrant Shares purchasable upon the exercise of each Warrant immediately prior to such adjustment, and of which the denominator shall be the number of Warrant Shares purchasable immediately thereafter.

(g) No adjustment in the number of Warrant Shares purchasable upon the exercise of each Warrant need be made under paragraphs (b) and (c) if the Company issues or distributes to each Holder of Warrants the rights options, warrants, or convertible or exchangeable securities, or evidences of indebtedness or assets referred to in those paragraphs which each Holder of Warrants would have been entitled to receive had the Warrants been exercised prior to the happening of such event or the record date with respect thereto. No adjustment need be made for a change in the par value of the Warrant Shares.

(h) Upon the expiration of any rights, options, warrants or conversion or exchange privileges that result in an adjustment pursuant to this Section 6.1, if any thereof shall not have been exercised, the Warrant Price and the number of Warrant Shares purchasable upon the exercise of each Warrant shall, upon such expiration, be readjusted and shall thereafter be such as it would have been had it been originally adjusted (or had the original adjustment not been required, as the case may be) as if (A) the only shares of Common Stock so issued were the shares of Common Stock, if any, actually issued or sold upon the exercise of such rights, options, warrants or conversion or exchange rights and (B) such shares of Common Stock, if any, were issued or sold for the consideration actually received by the Company upon such exercise plus the aggregate consideration, if any, actually received by the Company for the issuance, sale or grant of all such rights, options, warrants or conversion or exchange rights whether or not exercised.

6.2 Notice of Adjustment . Whenever the number of Warrant Shares purchasable upon the exercise of each Warrant or the Warrant Price of such Warrant Shares is adjusted, as herein provided, the Company shall, or in the event that a warrant agent is appointed, the Company shall cause the warrant agent to, promptly and in any event within ten (10) days send to each Holder notice of such adjustment or adjustments. Such notice shall set forth the number of Warrant Shares purchasable upon the exercise of each Warrant and the Warrant Price after such adjustment, setting forth a brief statement of the facts requiring such adjustment and setting forth the computation by which such adjustment was made.

6.3 No Adjustment for Dividends . Except as provided in Section 6.1, no adjustment in respect of any dividends shall be made during the term of a Warrant or upon the exercise of a Warrant.

6.4 Preservation of Purchase Rights Upon Merger, Consolidation, etc . In case of any consolidation of the Company with or merger of the Company into another corporation or in case of any sale, transfer or lease to another corporation of all or substantially all the assets of the Company, other than a transaction constituting, resulting in, or giving effect to a Change of Control, the Company or such successor or purchasing corporation, as the case may be, shall execute an agreement that each Holder shall have the right thereafter, upon such Holder's election, either (i) upon payment of the Warrant Price in effect immediately prior to such action, to purchase upon exercise of each Warrant the kind and amount of shares and other securities and property (including cash) which the Holder would have owned or have been entitled to receive after the happening of such consolidation, merger, sale, transfer or lease had such Warrant been exercised immediately prior to such action (such shares and other securities and property (including cash) being referred to as the "Sale Consideration") or (ii) to receive, in cancellation of such Warrant (and in lieu of paying the Warrant price and exercising such Warrant), the Sale Consideration less a portion thereof having a fair market value (as reasonably determined by the Company) equal to the Warrant Price (it being understood that, if the Sale Consideration consists of more than one type of shares, other securities or property, the amount of each type of shares, other securities or property to be received shall be reduced proportionately); provided, however, that no adjustment in respect of dividends, interest or other income on or from such shares or other securities and property shall be made during the term of a Warrant or upon the exercise of a Warrant. The Company shall mail by first class mail, postage prepaid, to each Holder, notice of the execution of any such agreement. Such agreement shall provide for adjustments, which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Section 6. The provisions of this paragraph shall similarly apply to successive consolidations, mergers, sales, transfers or leases other than transactions constituting, resulting in, or giving effect to a Change of Control. The warrant agent (if appointed) shall be under no duty or responsibility to determine the correctness of any provisions contained in any such agreement relating to the kind or amount of shares of stock or other securities or property receivable upon exercise of Warrants or with respect to the method employed and provided therein for any adjustments and shall be entitled to rely upon the provisions contained in any such agreement.

6.5 Statement on Warrants . Irrespective of any adjustments in the Warrant Price or the number or kind of shares purchasable upon the exercise of the Warrants, Warrants issued before or after such adjustment may continue to express the same price and number and kind of shares as are stated in the Warrants initially issuable pursuant to this Agreement.

Section 7. Reservation of Warrant Shares; Purchase and Cancellation of Warrants .

7.1 Reservation of Warrant Shares . There have been reserved, and the Company shall at all times keep reserved, out of its authorized Common Stock, a number of shares of Common Stock sufficient to provide for the exercise of the rights of purchase represented by the outstanding Warrants. The Company will keep a copy of this Agreement on file with the transfer agent for the Warrant Shares. The warrant agent, if appointed, will be irrevocably authorized to requisition from time to time from such transfer agent the stock certificates required to honor outstanding Warrants upon exercise in accordance with the terms of this Agreement. The Company will supply such transfer agent with duly executed stock certificates for such purposes and will provide or otherwise make available any cash which may be payable as provided in Section 8. The Company will furnish such transfer agent a copy of all notices of adjustments and certificates related thereto, transmitted to each Holder pursuant to Section 6.2.

7.2 Purchase of Warrants by the Company . The Company shall have the right, except as limited by law or by other agreements, with the consent of the Holder, to purchase or otherwise acquire Warrants from the Holder at such times, in such manner and for such consideration as it and the Holder may deem appropriate.

7.3 Cancellation of Warrants . In the event the Company shall purchase or otherwise acquire Warrants, the same shall thereupon be cancelled and retired. The warrant agent (if so appointed) shall cancel any Warrant surrendered for exchange, substitution, transfer or exercise in whole or in part.

Section 8. Fractional Interests . The Company shall not be required to issue fractional Warrants upon the transfer of any Warrant, or fractional Warrant Shares upon the exercise of Warrants. If more than one Warrant shall be presented for exercise at the same time by the same Holder, the number of full Warrant Shares which shall be issuable upon the exercise thereof shall be computed on the basis of the aggregate number of Warrant Shares purchasable on exercise of the Warrants so presented. If any fraction of a Warrant Share would, except for the provisions of this Section 8, be issuable on the exercise of any Warrant (or specified portion thereof), the Company shall pay an amount in cash equal to the current market price per Warrant Share determined in accordance with Section 6.1(d) as of one Trading Day prior to the date the Warrant is presented for exercise, multiplied by such fraction.

Section 9. Exchange of Warrant Certificates . Each Warrant certificate may be exchanged, at the option of the Holder thereof, for another Warrant certificate or Warrant certificates in different denominations (but not for any fractional Warrant or any denomination that would, but for Section 8, result in the issuance of a fractional share upon exercise) entitling the Holder or Holders thereof to purchase a like aggregate number of Warrant Shares as the certificate or certificates surrendered then entitle the Holder to purchase. Any Holder desiring to exchange a Warrant certificate or certificates shall make such request in writing delivered to the Company at its principal office (or, if a warrant agent is appointed, the warrant agent at its principal office) and shall surrender, properly endorsed, the certificate or certificates to be so exchanged. Thereupon, the Company (or, if appointed, the warrant agent) shall execute and deliver to the person entitled thereto a new Warrant certificate or certificates, as the case may be, as so requested, in such name or names as such Holder shall designate.

Section 10. Mutilated or Missing Warrants . In case any of the certificates evidencing the Warrants shall be mutilated, lost, stolen or destroyed, the Company may in its discretion issue and deliver (and, if appointed, the warrant agent shall countersign and deliver) in exchange and substitution for and upon cancellation of the mutilated Warrant certificate, or in lieu of and substitution for the Warrant certificate lost, stolen or destroyed, a new Warrant certificate of like tenor, but only upon receipt of evidence reasonably satisfactory to the Company and the warrant agent (if so appointed) of such loss, theft or destruction of such Warrant, and an indemnity or bond, if requested, also reasonably satisfactory to them. An applicant for such a substitute Warrant certificate shall also comply with such other reasonable requirements and pay such reasonable charges as the Company (or the warrant agent, if so appointed) may prescribe.

Section 11. No Rights as Stockholders; Notices to Holders . Nothing contained in this Agreement or in any of the Warrants shall be construed as conferring upon the Holders or their transferees the right to vote or to receive dividends or to consent or to receive notice as stockholders in respect of any meeting of stockholders for the election of directors of the Company or any other matter, or any rights whatsoever as stockholders of the Company. If, however, at any time prior to the Expiration Date if any of the following events shall occur: (a) the Company shall declare any dividend payable in any securities upon its shares of Common Stock or make any distribution (other than a regular cash dividend, as such dividend may be increased from time to time, or a dividend payable in shares of Common Stock) to the holders of its shares of Common Stock; or (b) the Company shall distribute rights, options or warrants to all holders of its outstanding Common Stock, without any charge to such holders, entitling them to subscribe for or purchase shares of Common Stock or the Company shall otherwise offer to the holders of its shares of Common Stock on a pro rata basis any cash, additional shares of Common Stock or other securities of the Company or any right to subscribe for or purchase any thereof; (c) a consolidation, merger, sale, transfer or lease of all or substantially all of the Company's property, assets, and business as an entirety, or (d) a dissolution, liquidation or winding up of the Company, or (e) a transaction between the Company and any other Person that will result in a Change of Control shall be proposed, then in any one or more of said events the Company shall give notice in writing of such event as provided in Section 12, such giving of notice to be completed at least 10 days prior to the date fixed as a record date or the date of closing the transfer books for the determination of the stockholders entitled to such dividend or distribution or for the determination of stockholders entitled to vote on such proposed merger, consolidation, sale of assets, dissolution, liquidation or winding up or the date on which a transaction to which the Company is a party and which will cause or result in a Change of Control will be consummated. Such notice shall specify such record date or the date of closing the transfer books, as the case may be. Failure to publish, mail or receive such notice or any defect therein or in the publication or mailing thereof shall not affect the validity of any action in connection with such dividend, distribution or subscription rights, or such proposed dissolution, liquidation or winding up.

Section 12. Notices; Principal Office . Any notice pursuant to this Agreement by the Company or by any Holder to the warrant agent (if so appointed), or by the warrant agent (if so appointed) or by any Holder to the Company, shall be in writing and shall be delivered in person, or mailed first class, postage prepaid, or sent by air delivery service (a) to the Company, at its office, Attention: Chief Financial Officer, or (b) to the warrant agent, at its offices as designated at the time the warrant agent is appointed. The address of the principal office of the Company is 1010 Atlantic Avenue, Suite 102, Alameda, California 94051. Any notice given pursuant to this Agreement by the Company or the warrant agent to a Holder shall be in writing and shall be mailed first class, postage prepaid, or sent by air delivery service, or delivered personally to such Holder at the Holder's address on the books of the Company or the warrant agent, as the case may be. A notice shall be deemed given on the date deposited in the United States mail, first class postage prepaid, or on date deposited with an air delivery service, or on the date delivered if personally delivered. The Company, the warrant agent (if appointed), and any Holder may from time to time change the address to which notices to it are to be delivered or mailed hereunder by notice given as provided in this Section 12.

Section 13. Successors . Except as expressly provided herein to the contrary, all the covenants and provisions of this Agreement by or for the benefit of the Company, the warrant agent (if appointed) and the Holder shall bind and inure to the benefit of their respective successors and permitted assigns hereunder.

Section 14. Legends . The Warrants shall bear an appropriate legend, conspicuously disclosing the restrictions on exercise under Section 3.4, and the Warrants and Warrant Shares shall bear an appropriate legend, conspicuously disclosing the restrictions on transfer under Section 4.3 until the same are registered for sale under the Securities Act or are transferred in a transaction exempt from registration under the Securities Act entitling the transferee to receive securities that are not deemed to be "restricted securities" as such term is defined in Rule 144 under the Securities Act. The Company agrees that upon the sale of the Warrants and Warrant Shares pursuant to a registration statement or an exemption entitling the transferee to receive securities that are not deemed to be "restricted securities," or at such time as registration under the Securities Act shall no longer be required, upon the presentation of the certificates containing such a legend to the transfer agent or warrant agent, if any, it will remove such legend; provided, that unless the request for removal of the legend is in connection with a sale registered under the Securities Act, the Holder shall have provided an opinion of counsel, acceptable to the Company and the transfer agent or warrant agent, as applicable, to the effect that such legend may be removed in compliance with the Securities Act.

Section 15. Applicable Law . This Agreement and each Warrant issued hereunder shall be governed by and construed in accordance with the laws of the State of Delaware, without giving effect to principles of conflict of laws.

Section 16. Benefits of this Agreement . This Agreement shall be for the sole and exclusive benefit of the Company, the warrant agent (if appointed), and the Holders. Nothing in this Agreement shall be construed to give to any Person other than the Company, the warrant agent (if appointed), and the Holders any legal or equitable right, remedy or claim under this Agreement.

Section 17. Counterparts . This Agreement may be executed in any number of counterparts (including by separate counterpart signature pages) and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument.

Section 18. Captions . The captions of the Sections and subsections of this Agreement have been inserted for convenience only and shall have no substantive effect.

Section 19. Certain Definitions . For purposes of this Warrant Agreement and the Warrants, the following terms shall have the following meanings:

19.1 "Common Stock" means the common stock, par value $0.0001 per share, of the Company and any other capital stock of the Company issued in exchange therefor or into which such common stock may be converted through any reclassification or recapitalization of such common stock of the Company; but excluding shares of any other Person into which Company common stock may be converted or exchanged in connection with a merger or consolidation other than a merger or consolidation solely for the purpose of changing the state of the Company's incorporation.

19.2 "Company" means AgeX Therapeutics, Inc., a Delaware corporation.

19.3 "Business Day" means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

19.4 "Change of Control" means (a) a merger or consolidation of the Company with another Person other than (i) a merger in which the Company is the surviving Person and the holders of Common Stock immediately before the merger hold more than 50% of the Common Stock immediately after the merger or consolidation, or (ii) a merger solely for the purpose of changing the state of the Company's incorporation, (b) a tender offer or similar transaction through which a Person acquires more than 50% of the outstanding Common Stock, or (c) a sale of all or substantially all of the assets of the Company.

19.5 “Expiration Date” shall have the meaning set forth in Section 1.2.

19.6 “Holder” means a registered holder of a Warrant as reflected on the Warrant Register.

19.7 “Person” means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

19.8 “Sale Consideration” shall have the meaning ascribed in Section 6.4

19.9 “Securities Act” means the Securities Act of 1933, as amended.

19.10 “Trading Day” means any day on which the Common Stock is traded on a securities exchange or market, provided that “Trading Day” shall not include any day on which the Common Stock does not trade for at least 4.5 hours on at least one exchange or securities market.

19.11 “VWAP” means volume-weighted average price per share.

19.12 “Warrants” mean the Common Stock purchase warrants issuable and governed pursuant to this Agreement.

19.13 “Warrant Price” shall have the meaning ascribed in Section 2.

19.14 “Warrant Register” shall have the meaning ascribed in Section 4.1.

19.15 “Warrant Share” shall have the meaning ascribed in Section 1.1.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed, all as of the day and year first above written.

AGEX THERAPEUTICS, INC.

By: */s/ Michael D. West*
Michael D. West
President and Chief Executive Officer

Attest:

By: */ s/ Russell Skibsted*
Russell Skibsted,
Chief Financial Officer

EXHIBIT A

THIS WARRANT HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR UNDER APPLICABLE STATE SECURITIES LAWS. THIS WARRANT MAY NOT BE EXERCISED, SOLD, PLEDGED, HYPOTHECATED, TRANSFERRED OR ASSIGNED EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT AND APPLICABLE STATE SECURITIES LAWS, OR PURSUANT TO AN AVAILABLE EXEMPTION FROM REGISTRATION. HEDGING TRANSACTIONS INVOLVING THIS WARRANT OR ANY COMMON STOCK OR OTHER SECURITIES ISSUABLE UPON EXERCISE OF THIS WARRANT MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE SECURITIES ACT

VOID AFTER 5:00 P.M. NEW YORK TIME ON THE EXPIRATION DATE

Certificate No. ____ Warrant to Purchase

[Insert number of Shares]

Shares of Common Stock

AGEX THERAPEUTICS, INC.
COMMON STOCK PURCHASE WARRANTS

This certifies that, for value received, _____ or registered assigns (the "Holder"), is entitled to purchase from AgeX Therapeutics, Inc., a Delaware corporation (the "Company"), at a purchase price per share of Two Dollars and Fifty Cents ($2.50) (the "Warrant Price"), the number of shares of its Common Stock, par value $0.0001 per share (the "Common Stock"), shown above. The series and number of shares purchasable upon exercise of the Common Stock Purchase Warrants (the "Warrants") and the Warrant Price are subject to adjustment from time to time as set forth in the Warrant Agreement referred to below. Outstanding Warrants not exercised prior to 5:00 p.m., New York time, on the Expiration Date as defined in the Warrant Agreement shall thereafter be void.

Subject to restriction specified in the Warrant Agreement, Warrants may be exercised in whole or in part by presentation of this Warrant Certificate with the Purchase Form on the reverse side hereof duly executed, and simultaneous payment of the Warrant Price (or as otherwise set forth in Section 6.4 of the Warrant Agreement) at the principal office of the Company (or if a warrant agent is appointed, at the principal office of the warrant agent). Payment of the Warrant Price shall be made by bank wire transfer to the account of the Company or by bank cashier's check as provided in Section 3.1 of the Warrant Agreement. As provided in the Warrant Agreement, the Warrant Price and the number or kind of shares which may be purchased upon the exercise of the Warrant evidenced by this Warrant Certificate are, upon the happening of certain events, subject to modification and adjustment.

This Warrant Certificate is issued under and in accordance with a Warrant Agreement dated as of February 28, 2018, and is subject to the terms and provisions contained in the Warrant Agreement, to all of which the Holder of this Warrant Certificate by acceptance of this Warrant Certificate consents. A copy of the Warrant Agreement may be obtained by the Holder hereof upon written request to the Company. In the event that pursuant to the Warrant Agreement a warrant agent is appointed and a new warrant agreement entered into between the Company and such warrant agent, then such new warrant agreement shall constitute the Warrant Agreement for purposes hereof and this Warrant Certificate shall be deemed to have been issued pursuant to such new warrant agreement.

Upon any partial exercise of the Warrant evidenced by this Warrant Certificate, there shall be issued to the Holder hereof a new Warrant Certificate in respect of the shares of Common Stock as to which the Warrant evidenced by this Warrant Certificate shall not have been exercised to the extent provided in the Warrant Agreement. This Warrant Certificate may be exchanged at the office of the Company (or the warrant agent, if appointed) by surrender of this Warrant Certificate properly endorsed either separately or in combination with one or more other Warrant Certificates for one or more new Warrant Certificates evidencing the right of the Holder thereof to purchase the aggregate number of shares as were purchasable on exercise of the Warrants evidenced by the Warrant Certificate or Certificates exchanged. No fractional shares will be issued upon the exercise of any Warrant, but the Company will pay the cash value thereof determined as provided in the Warrant Agreement. This Warrant Certificate is transferable at the office of the Company (or the warrant agent, if appointed) in the manner and subject to the limitations set forth in the Warrant Agreement.

The Holder hereof may be treated by the Company, the warrant agent (if appointed), and all other persons dealing with this Warrant Certificate as the absolute owner hereof for any purpose and as the person entitled to exercise the rights represented hereby, or to the transfer hereof on the books of the Company, any notice to the contrary notwithstanding, and until such transfer on such books, the Company (and the warrant agent, if appointed) may treat the Holder hereof as the owner for all purposes.

Neither the Warrant nor this Warrant Certificate entitles any Holder to any of the rights of a stockholder of the Company.

[This Warrant Certificate shall not be valid or obligatory for any purpose until it shall have been countersigned by the warrant agent.] *

DATED:

AGEX THERAPEUTICS, INC.

(Seal)

By: _____

Title: _____

Attest:_____
[COUNTERSIGNED:
WARRANT AGENT

By:_____]*
Authorized Signature

_____

* To be part of the Warrant only after the appointment of a warrant agent pursuant to the Warrant Agreement.

PURCHASE FORM

(To be executed upon exercise of Warrant)

To AgeX Therapeutics, Inc.:

The undersigned hereby irrevocably elects to exercise the right of purchase represented by the within Warrant Certificate for, and to purchase thereunder, _____ shares of Common Stock, as provided for therein, and tenders herewith payment of the Warrant Price in full in the form of a bank wire transfer to the account of the Company or by bank cashier's check in the amount of $_____.

Please issue a certificate or certificates for such shares of Common Stock in the name of, and pay any cash for any fractional share to:

_____
(Please Print Name)

_____
(Please Print Address)

_____
(Social Security Number or
Other Taxpayer Identification Number)

_____
(Signature)

NOTE: The above signature should correspond exactly with the name on the face of this Warrant Certificate or with the name of the assignee appearing in the assignment form below.

And, if said number of shares shall not be all the shares purchasable under the within Warrant Certificate, a new Warrant Certificate is to be issued in the name of said undersigned for the balance remaining of the share purchasable thereunder, to the extent provided in the Warrant Agreement, less any fraction of a share paid in cash.

ASSIGNMENT

(To be executed only upon assignment of Warrant Certificate)

For value received, _____ hereby sells, assigns and transfers unto _____ the within Warrant Certificate, together with all right, title and interest therein, and does hereby irrevocably constitute and appoint _____ attorney, to transfer said Warrant Certificate on the books of the within-named Company, with full power of substitution in the premises.

Dated:_____

_____

(Signature)

NOTE: The above signature should correspond exactly with the name on the face of this Warrant Certificate.

Exhibit 21.1

List of Subsidiaries

Subsidiary	Ownership	Country
ReCyte Therapeutics, Inc.	94.8%	USA
LifeMap Sciences, Inc.	81.7%	USA
LifeMap Sciences, Ltd.	(1)	Israel

(1) LifeMap Sciences, Ltd. (an Israeli company) is a wholly-owned subsidiary of LifeMap Sciences, Inc.

EXHIBIT 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statement on S-8 (Registration No. 333-229432) and related prospectuses of AgeX Therapeutics, Inc. of our report dated April 1, 2019, with respect to the consolidated financial statements of the Company which appears in this Annual Report on Form 10-K for the year ended December 31, 2018 .

/s/ OUM & Co. LLP

San Francisco, California
April 1, 2019

Exhibit 31

CERTIFICATIONS

I, Michael D. West , certify that:

1. I have reviewed this annual report on Form 10-K of AgeX Therapeutics, 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 Rule 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 periodic 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 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 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: April 1, 2019

/s/ Michael D. West

Michael D. West
Chief Executive Officer

Exhibit 31

CERTIFICATIONS

I, Russell Skibsted , certify that:

1 . I have reviewed this annual report on Form 10-K of AgeX Therapeutics, 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 Rule 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 periodic 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 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 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: April 1, 2019

/s/ Russell Skibsted

Russell Skibsted
Chief Financial Officer

Exhibit 32

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K of AgeX Therapeutics, Inc. (the "Company") for the year ended December 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we, Michael D. West , Chief Executive Officer, and Russell Skibsted , Chief Financial Officer, of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 1, 2019

/s/ Michael D. West
Michael D. West
Chief Executive Officer

/s/ Russell Skibsted
Russell Skibsted
Chief Financial Officer