ATHERSYS, INC / NEW
Form 10-K
March 11, 2016
Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark one)

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

For the fiscal year ended December 31, 2015

OR

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

For the transition period from _____ to _____

Commission file number 001-33876

Athersys, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**20-4864095**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
3201 Carnegie Avenue, Cleveland, Ohio	**44115-2634**
(Address of principal executive offices)	**(Zip Code)**

Registrant s telephone number, including area code (216) 431-9900

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

Title of each class	**Name of each exchange on which registered**
Common Stock, par value $0.001 per share	**NASDAQ Stock Market LLC**

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 x

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934. Yes ¨ No x

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Sections 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 x No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes x No ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229 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. x

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definition of accelerated filer, large accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ¨	Accelerated filer x
Non-accelerated filer ¨	Smaller reporting company ¨

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

The aggregate market value at June 30, 2015, the last business day of the registrant s most recently completed second fiscal quarter, of shares of the registrant s common stock (based upon the closing price per share of $1.21 of such stock as quoted on the NASDAQ Capital Market on such date) held by non-affiliates of the registrant was approximately $95.6 million.

The registrant had 83,720,154 shares of common stock outstanding on March 8, 2016.

Documents Incorporated By Reference.

Part III of this Annual Report on Form 10-K incorporates by reference certain information from the registrant s definitive Proxy Statement with respect to the 2016 Annual Meeting of Stockholders.

Table of Contents

TABLE OF CONTENTS

Table of Contents

PART I

ITEM 1. BUSINESS.

We are an international biotechnology company that is focused primarily in the field of regenerative medicine. We are committed to the discovery and development of best-in-class therapies designed to extend and enhance the quality of human life. We have established a portfolio of therapeutic product development programs to address significant unmet medical needs in multiple disease areas. Our MultiStem® cell therapy, a patented and proprietary allogeneic stem cell product, is our lead platform product and is currently in later-stage clinical development. Our current clinical development programs are focused on treating neurological conditions, cardiovascular disease, inflammatory and immune disorders, certain pulmonary conditions and other conditions where the current standard of care is limited or inadequate for many patients. These represent major areas of clinical need, as well as substantial commercial opportunities.

We believe our MultiStem therapy represents a potential breakthrough in the field of regenerative medicine and stem cell therapy and could be used to treat a range of disease indications. MultiStem treatment enhances tissue repair and healing in multiple ways, including reducing inflammatory damage, protecting tissue that is at risk following acute or ischemic injury, and promoting formation of new blood vessels in regions of ischemic injury. These cells appear to be responsive to the environment in which they are administered, by homing to sites of injury and/or organs involved in injury response, and providing active disease response, while producing proteins that may provide benefit in both acute and chronic conditions. In contrast to traditional pharmaceutical products or biologics that generally act through a single biological mechanism of action, MultiStem cell therapy may enhance healing and tissue repair through multiple distinct mechanisms acting in parallel, such as by producing a range of therapeutic factors and dynamically responding to the needs of the body, resulting in a more effective therapeutic response.

We believe the therapeutic and commercial potential for MultiStem cell therapy to be very broad, applying to many areas of significant unmet medical need, and we are pursuing opportunities in several potential multi-billion dollar markets. While traditional pharmaceuticals and biologic therapies typically may be used to treat only a single disease or a narrowly defined set of related conditions, MultiStem cell therapy appears to have far broader potential and could be developed in different formulations and with different delivery approaches to effectively treat a wide range of disease indications.

The MultiStem product is unique among regenerative medicine approaches because it has the potential to be manufactured on a large scale, may be administered in an off-the-shelf manner with minimal processing, and can augment healing by providing biological potency and therapeutic effects that other cell therapy approaches may not be able to achieve. Additionally, MultiStem treatment has demonstrated good tolerability in both preclinical and clinical studies. Like drugs and biologics, the product is cleared from the body over time, enhancing product safety relative to other types of stem cell therapy. While the product does not permanently engraft in the patient, the therapeutic effects of treatment with MultiStem cells appear to have durability.

We have evaluated the use of MultiStem cell therapy as a potential treatment in several disease areas. Working with an international network of leading investigators and prominent research and clinical institutions, and through our own internal efforts, we have explored the potential for MultiStem therapy to be used as a treatment of acute and chronic forms of neurological conditions, cardiovascular disease, inflammatory and immune disorders, certain pulmonary conditions and other areas of unmet medical need. At present, we have advanced six MultiStem programs into clinical trials. Each of our programs targets an area of significant medical need and represents major commercial market opportunities.

In the neurological area, we evaluated in a completed Phase 2 trial the potential for MultiStem treatment of patients who have suffered neurological damage from an ischemic stroke. The results of this study demonstrated favorable tolerability and safety for MultiStem, consistent with prior studies. While the study did not achieve the primary and component secondary endpoints for the intent-to-treat population, the MultiStem treatment was associated with lower rates of mortality and life threatening adverse events, infections and pulmonary events, and also a reduction in hospitalization. In addition, analyses show that patients who received MultiStem treatment earlier (24 to 36 hours post-stroke) in the study s treatment window had better recovery in comparison to placebo. Analysis of biomarker data obtained from samples of study subjects indicated that MultiStem treatment reduces post-stroke inflammation compared to placebo. Furthermore, it appears that this effect is more pronounced for subjects receiving MultiStem earlier than 36 hours post-stroke. This effect is consistent with our hypothesis regarding mechanisms of action and related preclinical data, and with the clinical data suggesting faster and improved recovery for MultiStem-treated patients relative to current standard of care.

Importantly, the one-year follow-up data demonstrated that MultiStem-treated subjects on average continued to improve through one year and had a significantly higher rate of Excellent Outcome, as defined below, compared to placebo subjects at one year when evaluating all of the intent-to-treat subjects enrolled in the study. Achievement of an Excellent Outcome is important because it means that a patient has substantially improved in each of the three clinical rating scales used to assess patient improvement and has regained the ability to live and function independently with a high quality of life. The relative improvement in Excellent Outcome was even more pronounced in the patients who received MultiStem treatment within 36 hours of the stroke. If the MultiStem therapy is proven effective in a registrational study, this would represent a substantial increase in the time window for treatment, which currently is limited to several hours.

Table of Contents

Further analyses are being undertaken, and we are preparing for the next stage of clinical development of this program. In January 2016, we established a collaboration with HEALIOS K.K., or Healios, to develop and commercialize MultiStem for the treatment of ischemic stroke in Japan, and the collaboration may be expanded to two other indications, including acute respiratory distress syndrome, or ARDS. Healios will be responsible for the development and commercialization of MultiStem for ischemic stroke in Japan on an exclusive basis, and we will receive payments for product supplied to Healios. We had entered into a similar arrangement with Chugai Pharmaceutical Co., Ltd., or Chugai, in February 2015, but agreed with Chugai to terminate the license agreement in October 2015 when the parties were unable to reach an agreement on a potential modification of the financial terms of the agreement and on the development strategy in Japan, in light of the 90-day interim results from our Phase 2 clinical study. We have had several interactions with the United States Food and Drug Administration, or FDA, and Japan s Pharmaceuticals and Medical Devices Agency, or PMDA, regarding study design and the potential to accelerate the path to product approval. Further, we and our partner, Healios, intend to take advantage of the new accelerated Regenerative Medicine regulatory framework in Japan that is designed to enable rapid conditional authorization of qualified regenerative medicine therapies. We believe such initiatives could accelerate the commercialization of products like MultiStem cell therapy for ischemic stroke, if future clinical evaluation demonstrates appropriate safety and therapeutic effectiveness.

We recently initiated a Phase 2 clinical study in the United States for the administration of MultiStem cell therapy to patients that have suffered an acute myocardial infarction, or AMI. We were awarded a grant from the National Institutes of Health for up to $2.8 million to support this clinical program. Previously we completed a Phase 1 clinical trial involving administration of MultiStem cell therapy to patients that have suffered an AMI, and the results of this trial demonstrated consistent safety and encouraging evidence of therapeutic benefit among patients with severely compromised heart function. The ongoing Phase 2 study is currently enrolling patients and we look forward to the results of this study upon completion.

We have also initiated a clinical study for the treatment of ARDS in the United Kingdom, or UK, and in the United States. ARDS is a serious immunological and inflammatory condition characterized by widespread inflammation in the lungs. Currently, there are limited interventions and no effective drug treatments for ARDS, making it an area of high unmet clinical need with high treatment costs. In 2015, we were awarded a grant from Innovate UK of up to approximately £2.0 million in support of a Phase 2a clinical study evaluating the administration of MultiStem cell therapy to ARDS patients. The study is being conducted with the assistance of the Cell Therapy Catapult, or Catapult, and is currently enrolling patients.

Additionally, we evaluated in a completed Phase 1 clinical study the potential for MultiStem cell therapy to prevent or reduce graft-versus-host disease, or GvHD, and other complications, and to provide supportive care to patients undergoing a hematopoietic stem cell transplant to treat leukemia or related conditions. We are preparing to advance our GvHD program into the next phase of clinical development and have had several interactions with the FDA and similar international agencies regarding study design and the potential to accelerate the path to product approval. Our MultiStem therapy for GvHD has been designated an orphan drug by both the FDA and the European Medicines Agency, or EMA, which may provide market exclusivity and other substantial potential incentives and benefits. In February 2015, the MultiStem product was granted Fast Track designation by the FDA for prophylaxis therapy against GvHD following hematopoietic cell transplantation. Subsequently, our registration study design received a positive opinion from the EMA through the Protocol Assessment/Scientific Advice procedure. Furthermore, in December 2015, the proposed registration study received Special Protocol Assessment designation from the FDA, meaning that the trial is adequately designed to support a Biologic License Application, or BLA, submission for registration if it is successful. Initiation of this trial will depend on the progress in other clinical trials and the achievement of certain business development and financial objectives. We may elect to enter into a development and commercialization collaboration for this program.

MultiStem cell therapy was also evaluated in a Phase 2 clinical study exploring administration of MultiStem to patients with ulcerative colitis, or UC, a common form of inflammatory bowel disease, or IBD, which was conducted by a collaborative partner, Pfizer Inc., or Pfizer. Overall, the study results were disappointing, even though a single administration of the cell therapy may have had some short-term beneficial effects. Taking these results into account and following an internal portfolio review, Pfizer determined that it would not invest further in this program, as would be required by the collaboration, and notified us of this decision to terminate the license agreement effective in the third quarter of 2015. In connection with the termination, all rights that Pfizer had to the program reverted to us, all documents and data were returned to us, and intellectual property generated through the collaboration is owned by us.

Finally, a research collaborator and leading transplantation center in Europe is conducting a small, exploratory institutional-sponsored Phase 1 study to evaluate the administration of MultiStem cell therapy to patients undergoing a liver transplant. Previously published work involving preclinical models of organ transplantation demonstrated that administration of MultiStem cell therapy can help induce immune tolerance to organ allografts and eliminate the need for long-term immune suppression.

Table of Contents

Our development approach has historically involved establishing collaborative relationships with leading research and clinical centers in the United States and internationally. This has enabled us to methodically advance multiple programs in areas of defined unmet medical need in a resource efficient manner. Furthermore, by emphasizing the potential application of our technologies in areas of significant clinical need, we believe we are well positioned to utilize recent regulatory initiatives that are designed to promote the rapid and cost effective development of innovative new therapies, and are actively pursuing such initiatives. These include recent programs in the United States and Europe being implemented by the FDA and EMA involving existing and potentially broadened application of accelerated review and approval pathways, as well as the new accelerated Regenerative Medicine regulatory framework in Japan that is designed to enable rapid conditional authorization of qualified regenerative medicine therapies. We believe such initiatives could accelerate the development and commercialization of products like MultiStem cell therapy, if clinical results demonstrate appropriate safety and therapeutic effectiveness, thereby increasing shareholder value. To date, Japan s new Regenerative Medicine regulatory framework that was enacted late in 2014 has resulted in the commercial approval of two cell therapy products developed by other companies, and reimbursement of those products, and we hope to be also successfully utilize this framework, such as by working with our partner Healios.

In addition to our MultiStem programs, we have developed novel pharmaceuticals to treat obesity, related metabolic conditions such as diabetes, and certain neurological indications such as schizophrenia. Our 5HT2c agonist program for obesity works by the same mechanism as Belviq® which has been approved by the FDA for the treatment of obesity. We believe our compounds have the potential to provide superior weight loss, while also achieving a superior safety and tolerability profile. In addition, we demonstrated that our compounds are complementary with other agents that have been approved by the FDA for treating obesity. We evaluated certain compounds in preclinical models of schizophrenia that exhibit an attractive selectivity profile and also observed that these compounds exhibit potent effects. We may elect to enter into a partnership to advance the development of our 5HT2c agonist program, either for the treatment of obesity, schizophrenia, or both indications, as well as for certain programs involving MultiStem. Further, small molecule compounds may be used to enhance the production or therapeutic effectiveness of MultiStem or related products. These compounds may increase biological potency for certain indications and lead to second or third generation products in the regenerative medicine area.

We were incorporated in Delaware on October 24, 1995. On June 8, 2007, we merged with a wholly owned subsidiary of BTHC VI, Inc., a Delaware corporation, and on August 31, 2007, BTHC VI, Inc. changed its name to Athersys, Inc.

Business Strategy

Our principal business objective is to discover, develop and commercialize novel therapeutic products for disease indications that represent significant areas of clinical need and commercial opportunity. The key elements of our strategy are outlined below:

Efficiently Conduct Clinical Development to Establish Clinical Proof of Concept and Biological Activity with our Lead Product Candidates. We are conducting a number of clinical studies with the intent to establish safety and efficacy proof of concept and/or evidence of biological activity in a number of important disease areas where our cell therapies would be expected to have benefit including neurological conditions, cardiovascular disease, and inflammatory and immune system dysfunctions. Our strategy is to conduct well-designed studies beginning early in the clinical development process, thus establishing a robust foundation for later-stage development, partnering activity and expansion into complementary areas. We are

committed to a rigorous clinical and regulatory approach, which we believe has helped us to advance our programs efficiently, providing high quality, transparent communications and regulatory submissions. Our discussions with the FDA, the EMA and PMDA regulatory agencies have resulted in productive interactions that have helped to advance our programs efficiently.

Continue to Refine and Improve our Manufacturing and Related Processes and Deepen our Understanding of Therapeutic Mechanisms of Action. A key aspect of our MultiStem cells is their expansion capacity *ex vivo* relative to other cell types. This allows for large scale production of the clinical product, which enables greater consistency, specificity and cost of goods advantages over other cell therapies. We are building on this intrinsic biological advantage by advancing and optimizing our production and process development approaches, working with contract manufacturers. We have already begun to optimize new manufacturing techniques and the pharmacy-to-bedside approach to support late-stage development and commercialization of the MultiStem product (e.g., bags to vials, vials to large vials). We are in the process of developing a large-scale manufacturing process, which if successful, is expected to reduce the cost of the manufactured cells substantially. Additionally, we will continue to refine our understanding of our products activities and mechanisms of action to enable optimization of administration and dosing and to prepare the foundation for product enhancements and next generation opportunities.

Table of Contents

Enter into Arrangements with Business Partners to Accelerate Development and Value Creation. In addition to our internal development efforts, an important part of our strategy is to work with collaborators and partners to accelerate product development, reduce our development costs, and broaden our commercial access. We have entered into licensing and collaborative arrangements with qualified commercial partners to achieve these objectives. We anticipate that this strategy will help us to develop a portfolio of high quality product development opportunities, enhance our clinical development and commercialization capabilities, and increase our ability to generate value from our proprietary technologies. To date, we entered into technology licensing arrangements with companies such as Healios, Chugai, Pfizer, Bristol-Myers Squibb Company, or Bristol-Myers Squibb, Johnson & Johnson, Wyeth Pharmaceuticals, Inc., RTI Surgical, Inc., or RTI, and others. Licensing partnerships generate revenue and provide capital that allows us to advance our programs further in development.

Efficiently Explore New High Potential Therapeutic Applications, Leveraging Third-Party Research Collaborations and our Results from Related Areas. Our MultiStem product candidate has shown promise in many disease areas, including in treating neurological conditions, cardiovascular disease, inflammatory and immune disorders, and other areas. We are committed to exploring potential clinical indications where our therapies may achieve best-in-class profile, and where we believe we can effectively address significant unmet medical needs. In order to achieve this goal, we established collaborative research relationships with investigators from many leading research and clinical institutions across the United States and Europe, including the Cleveland Clinic, Case Western Reserve University, University of Minnesota, the Medical College of Georgia at Augusta University, the University of Oregon Health Sciences Center, the University of Texas Health Science Center at Houston, the University of Pittsburgh Medical Center, the Katholieke Universiteit Leuven, or KUL, University of Regensburg, and other institutions. Through this network of collaborations, we have evaluated MultiStem therapy in a range of preclinical models that reflect various types of human disease or injury. These collaborative relationships have enabled us to cost effectively explore where MultiStem cell therapy may have relevance and how it may be utilized to advance treatment over current standard of care. Additionally, we have shown that we can leverage clinical safety data and preclinical results from some programs to support accelerated clinical development efforts in other areas, saving substantial development time and resources compared to traditional drug development where each program is separately developed.

Continue to Expand our Intellectual Property Portfolio. We have a broad intellectual property estate that covers our proprietary products and technologies, as well as methods of production and methods of use. Our intellectual property is important to our business and we take significant steps to protect its value. We have ongoing research and development efforts, both through internal activities and through collaborative research activities with others, which aim to develop new intellectual property and enable us to file patent applications that cover new applications of our existing technologies or product candidates, including MultiStem cells and other opportunities. We currently have over 230 patents related to our technologies, providing protection in the United States, Europe, Japan and other areas.

Our Current Programs

By applying our proprietary MultiStem cell therapy product, we established therapeutic product development programs treating neurological conditions, cardiovascular disease, inflammatory and immune disorders, and other conditions. Our programs in the clinical development stage include the following:

Ischemic Stroke: We recently completed our Phase 2 study of MultiStem treatment of subjects suffering a moderate to severe ischemic stroke. In April 2015, we announced the interim results from the clinical study, and in February 2016, we announced the one-year follow-up data from the study. Our double blind, placebo-controlled trial was conducted at leading stroke centers across the United States and UK. In the study, we treated patients one to two days after a stroke. Published studies suggest that approximately 90% of ischemic stroke patients reach the hospital within 24 hours. By contrast, the current standard of care, thrombolytic tPA, must be administered within 3 to 4.5 hours after a stroke, limiting the proportion of patients receiving such treatment to less than 10% of ischemic stroke patients. Patients were assessed at 90 days and one-year in accordance with three well validated and commonly utilized clinical rating scales that are used to assess recovery. These include the Modified Rankin Score, or mRS, (which is a scale from 0 to 6, with a score of 0 reflecting no patient disability and 6 indicating death) assessing overall disability; the NIH Stroke Scale, or NIHSS, which assesses neurological and motor skill deficit (a scale from 0 to 42, with a score of 0 reflecting no disability, and 42 reflecting maximum disability in every category) assessing neurological and motor skill deficits; and the Barthel Index, or BI, (a 100 point index, with a score of 100 representing the best possible score) evaluating the patient s ability to engage in activities of daily living.

Table of Contents

The interim results following the 90-day patient evaluation demonstrate favorable tolerability and safety for MultiStem, consistent with prior studies. With respect to the primary and component secondary endpoints for the intent-to-treat population, the MultiStem treatment did not show a meaningful difference at 90 days compared to placebo. However, MultiStem treatment was associated with lower rates of mortality and life threatening adverse events, infections and pulmonary events, and also a reduction in hospitalization. Furthermore, a higher proportion of patients receiving MultiStem achieved an Excellent Outcome, meaning complete or nearly full recovery, which is defined clinically as the patient achieving excellent recovery in each of the three clinical rating scales, as evidenced by patients achieving a score of mRS £1, NIHSS £1 and BI ³95. Achievement of an Excellent Outcome is important because it means that a patient has substantially improved in each of the three clinical rating scales used to assess patient improvement and has regained the ability to live and function independently with a high quality of life. Among all subjects who received MultiStem treatment, 15.4% of patients achieved an Excellent Outcome, compared to 6.6% of patients who received placebo (p=0.10). Importantly, by one year, there was a significant difference between the groups with 23.1% of MultiStem subjects having an Excellent Outcome compared to 8.2% of placebo subjects (p=0.02)

In addition, analyses show that patients who received MultiStem treatment earlier (24 to 36 hours post-stroke) in the study s treatment window had better recovery in comparison to placebo. For example, at 90 days post-stroke, patients who were treated with MultiStem within 24 to 36 hours of the stroke (i.e. consistent with our original study design) had much better outcomes compared to placebo patients as measured by recovery in each of the key secondary endpoints: mRS £2, NIHSS D ³75% and BI ³95. Specifically, 41.9% of the MultiStem-treated patients achieved good or excellent recovery in all three clinical scales, compared to only 24.6% of all patients receiving placebo, a difference of 17.3% (p = 0.08). Additionally, MultiStem subjects had a significantly lower rate of secondary infections than placebo subjects (16.1% v. 47.5%, p<0.01) and of average initial hospital days (6.8 v. 9.8, p=0.02). At one year, such early-treated MultiStem patients had a significantly higher rate of Excellent Outcome than all placebo subjects (29.0% v. 8.2%, p<0.01)

Furthermore, we evaluated the recovery at 90 days of patients who received treatment with MultiStem within 24 to 36 hours post stroke versus all patients receiving placebo, excluding in both groups patients who received both tPA and mechanical reperfusion (and who were excluded in the original trial design). In this post-hoc analysis, patients in the MultiStem group were more than two times as likely as the placebo group to achieve global recovery based on the Global Test Statistic the primary endpoint (p=0.06), demonstrated substantially better performance in the three component secondary endpoints, and also exhibited accelerated improvement in comparison to patients receiving placebo. These MultiStem-treated patients were also much more likely to achieve recovery in each of the key secondary endpoints, with 44.4% of these patients achieving such recovery on all three scales, compared to just 17.3% for the placebo group, a difference of 27.1% (p < 0.01). Additionally, these MultiStem patients achieved significantly higher rates of Excellent Outcome (p=0.03), and the patients in the MultiStem-treated group showed improvement on the Cochran-Mantel-Haenszel shift analysis (p=0.03), which compares performance for the patient groups across the spectrum of mRS outcomes. Hospitalization duration was significantly reduced for the MultiStem-treated patients (35% lower than the average for placebo patients) and the average intensive care unit stay was also meaningfully reduced. One-year follow-up data demonstrates that MultiStem-treated subjects, on average, continued to improve relative to placebo with significant differences in Excellent Outcome, the shift analysis and Barthel Index.

Analysis of biomarker data obtained from samples of study subjects indicated that MultiStem treatment reduces post-stroke inflammation compared to placebo, and it appears that this effect is more pronounced for subjects receiving MultiStem earlier than 36 hours post-stroke. This effect is consistent with our hypothesis regarding mechanisms of action and related preclinical data, and with the clinical data suggesting faster recovery for MultiStem-treated patients.

If the MultiStem therapy is proven effective in a registrational study, this would represent a substantial increase in the time window for treatment for ischemic stroke victims, which currently is limited to several hours. Further analyses are being undertaken, and we are preparing for the next stage of clinical development of this program.

Acute Myocardial Infarction: We recently initiated a Phase 2 clinical study in the United States for the administration of MultiStem cell therapy to patients that have suffered an AMI. We previously evaluated the administration of MultiStem to patients that suffered an AMI in a Phase 1 clinical study. The results of this study demonstrated a favorable safety profile and encouraging signs of improvement in heart function among patients that exhibited severely compromised heart function prior to treatment. This data was published in a leading peer reviewed scientific journal, and one-year follow-up data suggested that the benefit observed was sustained over time. We were awarded a grant for up to $2.8 million in funding to support the advancement of this clinical program, and we are currently enrolling patients in our Phase 2 clinical study, evaluating the safety and efficacy of MultiStem treatment in subjects who have a non-ST elevated myocardial infarction. The study is double-blind, sham-controlled and is being conducted at leading cardiovascular centers in the United States.

Table of Contents

Acute Respiratory Distress Syndrome: We have also initiated a clinical study for the treatment of ARDS in the UK and in the United States. In 2015, we were awarded a grant from Innovate UK for up to approximately £2.0 million in support of a Phase 2a clinical study evaluating the administration of MultiStem cell therapy to ARDS patients. ARDS is a serious immunological and inflammatory condition characterized by widespread inflammation in the lungs. ARDS can be triggered by pneumonia, sepsis, or other trauma and represents a major cause of morbidity and mortality in the critical care setting. The medical need for a safe and effective treatment of ARDS is significant due to its high mortality rate, and it annually affects approximately 400,000 to 500,000 patients in Europe, the United States and Japan, together. The Phase 2a clinical trial is being conducted with the assistance of Catapult and is currently enrolling patients.

Hematopoietic Stem Cell Transplant / GvHD: We completed a Phase 1 clinical study of the administration of MultiStem cell therapy to patients suffering from leukemia or certain other blood-borne cancers in which patients undergo radiation therapy and then receive a hematopoietic stem cell transplant. Such patients are at significant risk for serious complications, including GvHD, an imbalance of immune system function caused by transplanted cells that trigger an attack against various tissues and organs in the patient. Data from the study demonstrated the safety of MultiStem cell therapy in this indication and suggested that the treatment may have a beneficial effect in reducing the incidence and severity of GvHD, as well as providing other benefits. We were granted orphan drug designation by the FDA and the EMA for MultiStem treatment in the prevention of GvHD. In February 2015, the MultiStem product was granted Fast Track designation by the FDA for prophylaxis therapy against GvHD following hematopoietic cell transplantation. Subsequently, our registration study design received a positive opinion from the EMA through the Protocol Assessment/Scientific Advice procedure. Furthermore, in December 2015, the proposed registration study received Special Protocol Assessment designation from the FDA, meaning that the trial is adequately designed to support a BLA submission for registration if it is successful. Currently, we are staging this program for future registration-directed development dependent on the achievement of certain business development and financial objectives.

Inflammatory Bowel Disease: MultiStem therapy has been evaluated in a Phase 2 clinical study involving administration of MultiStem to patients suffering from UC, the most common form of IBD, which was conducted by a collaborative partner, Pfizer. Overall, the study results released in 2014 were disappointing, in that a single administration of MultiStem to a patient population with longstanding, chronic advanced disease failed to show a meaningful clinical effect at the eight-week evaluation period. Despite not showing a significant improvement compared to placebo in the primary efficacy endpoints, the MultiStem therapy demonstrated favorable safety and tolerability in the eight weeks following treatment. Furthermore, at four weeks, patients getting MultiStem treatment had a significantly higher proportion of rectal bleeding responders than placebo patients, suggesting the possibility of a transient effect from the single MultiStem dose. Subsequent analyses suggest that MultiStem treatment has an impact on relevant biomarkers shortly after treatment compared to placebo, suggesting the possibility of improved benefit from a different treatment regime. Taking these results into account and following an internal portfolio review of its IBD programs, Pfizer determined that it would not invest further in this program as required by the collaboration and notified us of its decision to terminate the license agreement effective in the third quarter of 2015. In connection with the termination, all rights to the program reverted to us, and we are free to use preclinical and clinical data for development in this area and in other areas, including immunology and inflammatory conditions.

We are also conducting or supporting clinical activity in other areas, such as solid organ transplant, which is an investigator-initiated study being conducted at a leading transplant center in Europe. We are also engaged in the preparation stages for translational and clinical studies in other targeted areas.

In addition to our current and anticipated clinical development activities, we are engaged in preclinical development and evaluation of MultiStem therapy in other neurological, cardiovascular and inflammatory and immune disease

areas, as well as certain other indications. We conduct such work both through our own internal research efforts and through a broad global network of collaborators. We are routinely in discussions with third parties about collaborating in the development of MultiStem therapy for various programs and may enter into one or more business partnerships to advance these programs over time.

In January 2016, we entered into a license agreement with Healios to develop and commercialize MultiStem cell therapy for ischemic stroke in Japan, and to provide Healios with access to our proprietary multipotent adult progenitor cell technology, or MAPC®, for use in Healios proprietary organ bud program, initially for transplantation to treat liver disease or dysfunction. Under the agreement, Healios also obtained a right to expand the scope of the collaboration to include the exclusive rights to develop and commercialize MultiStem for the treatment of two additional indications in Japan, which include ARDS and another indication in the orthopedic area, as well as all indications for the organ bud program. Healios will develop and commercialize the MultiStem product in Japan, and we will provide the manufactured product to Healios.

We had entered into a similar arrangement with Chugai early in 2015 for the development and commercialization of MultiStem therapy for stroke in Japan, but we terminated the license agreement in October 2015 when the parties were unable to reach an agreement on a potential modification of the financial terms of the agreement and on the development strategy in Japan as proposed by Chugai following the initial results from our Phase 2 clinical study.

Table of Contents

We also have a collaboration with RTI for the development of products for certain orthopedic applications using our stem cell technologies in the bone graft substitutes market, we have been earning royalty revenue from product sales since 2014 and may receive other payments upon the successful achievement of certain commercial milestones.

We are also have been developing novel small molecule therapies to treat obesity and other conditions, such as schizophrenia, and believe our compounds exhibit favorable attributes, including outstanding receptor selectivity, as well as greater potency and activity than other 5HT2c agonists. We also demonstrated our compounds are complementary with other agents that have been approved by the FDA and believe these compounds could achieve best in class weight loss, along with a superior safety and tolerability profile. Furthermore, we evaluated certain compounds in preclinical models of schizophrenia that exhibit an attractive selectivity profile and also observed that these compounds exhibit potent effects. We may elect to enter into a partnership to advance the development of our 5HT2c agonist program, either for the treatment of obesity, schizophrenia, or both indications, as well as for certain programs involving MultiStem.

Regenerative Medicine Programs

MultiStem A Novel Therapeutic Modality

We are developing our MultiStem therapy, a proprietary non-embryonic, allogeneic stem cell product candidate, that we believe has potential utility for treating a broad range of diseases and could have widespread application in the field of clinical regenerative medicine. Unlike traditional bone marrow transplants or other stem cell therapies, MultiStem cells may be manufactured on a large scale and may be administered without tissue matching or the need for immune suppression, analogous to type O blood. Potential applications of MultiStem therapy include the treatment of cardiovascular disease, neurological disease or injury and conditions involving the immune system, including autoimmune disease and other conditions. We believe that the MultiStem therapy represents a significant advancement in the field of stem cell therapy and could have broad clinical application. We currently have open Investigational New Drug applications, or INDs, for the study of MultiStem administration in distinct clinical indications, and several of our programs are in later-stage clinical development.

MultiStem cell therapy is a patented biologic product that is manufactured from human stem cells obtained from adult bone marrow, although these cells may alternatively be obtained from other tissue sources. The product consists of a special class of human stem cells that have the ability to express a range of therapeutically relevant proteins and other factors, as well as form multiple cell types. Factors expressed by the cells have the potential to deliver a therapeutic benefit in several ways, such as the reduction of inflammation, regulation of immune system function, protection of damaged or injured tissue, the formation of new blood vessels in regions of ischemic injury and augmentation of tissue repair and healing in other ways. Like drugs, these cells may be stored for an extended period of time in frozen form and used off-the-shelf. Following administration, the cells have been shown to express multiple therapeutically relevant proteins, but unlike a traditional transplant, are subsequently cleared from the body over time, analogous to a drug or biologic.

We believe that MultiStem represents a potential best-in-class stem cell therapy because it exhibits each of the following characteristics based on research and development conducted to date:

Broad plasticity and multiple potential mechanisms of action. MultiStem cells have a demonstrated ability in animal models to form a range of cell types and also appear to be able to deliver therapeutic benefit by producing factors that protect tissues against damage and inflammation, as well as enhancing or playing a

direct role in revascularization or tissue regeneration.

Large scale production. Unlike conventional stem cells, such as blood-forming or hematopoietic stem cells, mesenchymal stem cells, or other cell types, MultiStem cells may be produced on a large scale, processed, and cryogenically preserved, and then used clinically in a rapid and efficient manner. Material obtained from a single donor may be used to produce hundreds of thousands or millions of individual doses, representing a yield far greater than other stem cells have been able to achieve.

Off-the-shelf utility. Unlike traditional bone marrow or hematopoietic stem cell transplants that require extensive genetic matching between donor and recipient, MultiStem administration does not require tissue matching or immune suppressive drugs. The MultiStem product is administered as a cryogenically preserved allogeneic product, meaning that these cells are not genetically matched between donor and recipient. This feature, combined with the ability to establish large MultiStem banks, could make it practical for clinicians to efficiently deliver stem cell therapy to a large number of patients.

Safety. Other stem cell types, such as undifferentiated embryonic stem cells or induced pluripotent stem cells have shown the capacity to form ectopic tissue or teratomas, which are tumor-like growths. These could pose serious safety risks to patients. In contrast, MultiStem cells have shown a consistent and favorable safety profile that has been compiled over several years of preclinical study in a range of animal models by a variety of investigators and that is supported by clinical data generated to date.

Table of Contents

At each step of the MultiStem production process, cells are analyzed according to pre-established criteria to ensure that a consistent, well characterized product candidate is produced. Cells are harvested from a pre-qualified, healthy, consenting donor and these cells are then expanded to form a master cell bank from which we subsequently produce clinical grade material. We demonstrated the ability to harvest cells that meet our rigorous criteria from healthy donors with a high degree of consistency. Furthermore, in multiple animal models, MultiStem has been shown to be non-immunogenic, and is administered without the genetic matching that is typically required for conventional bone marrow or stem cell transplantation.

The distinctive profile of the MultiStem product allows us to pursue multiple high value commercial opportunities from a single product platform. Based upon work that we and independent collaborators have conducted over the past several years, we believe that MultiStem cells have the potential to treat a range of distinct disease indications, including ischemic injury and cardiovascular disease, certain types of neurological conditions or injury, autoimmune disease, transplant support (including in oncology patients and solid organ transplant areas), and a range of orphan disease indications. As a result, we believe we will be able to leverage our foundation of safety and efficacy data to add clinical indications efficiently, enabling us to reduce development costs and timelines substantially.

MultiStem for Treating Neurological Conditions, Cardiovascular Disease, and Inflammatory and Immune Disorders

Healthcare represents a significant part of the global economy. In the United States, it represented approximately 17.4% of all economic activity in 2013, or about $2.9 trillion dollars, annually. However, the United States, along with many other nations, is experiencing an unprecedented demographic shift that is resulting in a significantly expanded population of older individuals. According to United States Census data, in the next few years there will be a dramatic increase in the number of individuals over the age of 65, as this segment of the population increases from 40.2 million individuals in 2010 to more than 72 million people in 2030, representing an increase of approximately 80%. The aging of the population will create enormous financial pressure on the healthcare system in the United States and other countries around the world, resulting in significant clinical challenges, but also resulting in substantial commercial opportunities.

Data from the National Center for Health Statistics shows that as people get older, they are more susceptible to a variety of age related conditions, including heart disease, stroke, certain forms of cancer, diabetes, progressive neurological disorders, various chronic inflammatory and immune conditions, renal disease and a range of others. As a consequence, as people get older they spend far more on healthcare. On average, they spend four to ten times more on healthcare annually at age 65 or beyond than when they were younger and more healthy. According to the Alliance for Aging Research, 83% of healthcare spending is associated with chronic conditions, and other research shows that 62% of healthcare spending is associated with multiple chronic conditions. Traditional medical approaches have failed to adequately address this problem.

We have worked with independent investigators at a number of leading institutions, such as the Cleveland Clinic, Case Western Reserve University, University of Minnesota, the National Institutes of Health, the Medical College of Georgia at Augusta University, the University of Oregon Health Sciences Center, the University of Texas Health Science Center at Houston, KUL, the University of Pittsburgh Medical Center, University of Regensburg and other institutions. Through this network of collaborations, we studied the impact of MultiStem cell therapy in a range of preclinical models that reflect various types of human disease or injury in the neurological, cardiovascular, and immunological areas. To date, we and our collaborators have published research results illustrating the potential benefits of MultiStem cell therapy in a range of indications including ischemic stroke, traumatic brain injury, or TBI, brain damage due to restricted blood flow in newborns, spinal cord injury, myocardial infarction, vascular disease, acute pulmonary distress, and bone marrow transplant support/GvHD. In addition, we have explored and intend to further explore MultiStem administration in the treatment of a range of other conditions, including other forms of

cardiovascular disease, neurological conditions, and immune related disorders.

Based on preclinical results, we have advanced MultiStem therapy to clinical development stage in several clinical indications or disease areas: treatment for stroke caused by a blockage of blood flow in the brain; treatment of damage caused by myocardial infarction; treatment for ARDS; support in the hematologic malignancy setting to reduce certain complications associated with traditional bone marrow or hematopoietic stem cell, or HSC, transplantation; and treatment of IBD, initially focused on UC. Additionally, in collaboration with a leading transplant center in Europe, we advanced a program in the solid organ transplant area into clinical development.

We may expand to other clinical indication areas as results warrant and resources permit.

Table of Contents

Neurological Injury and Disease MultiStem for Ischemic Stroke

Another focus of our regenerative medicine program is MultiStem administration for the treatment of neurological injury as a result of acute or chronic conditions. Neurological injury and disease represents an area of significant unmet medical need, a major burden on the healthcare system, and also represents a huge commercial opportunity.

Many neurological conditions require extensive long-term therapy, and many require extended hospitalization and/or institutional care, creating an enormous cost burden. Stroke represents an area where the clinical need is particularly significant, since it represents a leading cause of death and significant long term disability. We have published research with independent collaborating investigators that demonstrates that MultiStem administration conveys biological benefits in preclinical models of ischemic stroke, as well as other models of neurological damage and injury, including TBI, neonatal hypoxic ischemia (a cause of neurological damage in infants), and spinal cord injury. We also conducted preclinical work in other neurological areas, and have been awarded grants to support work in areas such as the indications described above and for evaluating the potential of MultiStem cells to address chronic conditions such as Multiple Sclerosis, or MS, or Parkinson s disease. Our research has shown that MultiStem cells convey benefits through distinct mechanisms, including reducing inflammatory damage, protecting at risk tissue at the site of injury, and through direct neurotrophic effects that stimulate the recovery of damaged neurons. As a result, we believe that MultiStem therapy may have relevance to multiple forms of neurological injury and disease.

Our initial clinical focus in the neurological area involves evaluating MultiStem administration to treat ischemic stroke. Currently, there are approximately 800,000 individuals in the United States that suffer a stroke each year, more than two million stroke victims in the United States, Europe and Japan combined and more than 15 million people that suffer a stroke each year globally. The vast majority of these (approximately 85% to 90%) are ischemic strokes, that are caused by a blockage of blood flow in the brain, that cuts off the supply of oxygen and nutrients, and can result in tissue loss and neurological damage, as well as long term or permanent disability. The remaining 10% to 15% are hemorrhagic strokes, which occur when a blood vessel bursts and bleeding into the brain ensues.

Despite the fact that ischemic stroke is one of the leading causes of death and disability in the United States, there has been limited progress toward the development of treatments that improve the prognosis for stroke victims. The only FDA-approved drug currently available for ischemic stroke is the anti-clotting factor, tPA. According to current clinical guidelines, tPA must be administered to stroke patients within several hours after the occurrence of the ischemic stroke to remove the clot while minimizing potential risks, such as bleeding into the brain. Administration of tPA after three to four hours is not recommended, since it can cause cerebral bleeding or even death. Recent advancements in the development of clot extraction devices may help additional patients, but such treatments are limited to certain types of strokes and to an early time window. As a consequence of this limited time window, only a small percentage of stroke victims are treated with the currently available therapy most simply receive supportive or palliative care. The long-term costs of stroke are substantial, with many patients requiring extended hospitalization, extended physical therapy or rehabilitation (for those patients that are capable of entering such programs), and many require long-term institutional or family care.

In preclinical studies conducted by investigators, including at the University of Minnesota, the Medical College of Georgia at Augusta University, and the University of Texas Health Science Center at Houston, significant functional improvements have been observed in rodents that have undergone an experimentally induced stroke, or that have incurred significant neurological damage due to similar types of ischemic events, such as a result of neonatal hypoxic ischemia or TBI, and then received MultiStem treatment. Published research has demonstrated that MultiStem administration even one week after a surgically induced stroke results in substantial long-term therapeutic benefit, as evidenced by the improvement of treated animals compared with controls in a battery of tests examining mobility, strength, fine motor skills, and other aspects of neurological functional improvement. We believe MultiStem treatment

conveys significant benefits through several mechanisms, including reduction of inflammation and immune system modulation in the ischemic area, and the protection and rescue of damaged or injured cells, including neuronal tissue. Research results presented at the American Heart Association International Stroke Conference demonstrated that MultiStem administration 24 hours following a stroke reduced inflammatory damage in the brain and resulted in significant functional improvement, and that some of these results were achieved by reducing the inflammatory response emanating from the spleen in animal models. These results confirmed that MultiStem treatment is well tolerated, does not require immunosuppression and results in a robust and durable therapeutic benefit, and are consistent with prior results that show MultiStem can provide significant benefits even when administered up to one week after the initial stroke event.

We recently completed our first clinical study in stroke, which was a double-blind, placebo-controlled Phase 2 clinical trial exploring the administration of MultiStem to patients that have suffered an ischemic stroke in the United States and Europe. The results of this study demonstrated favorable safety and tolerability for MultiStem, consistent with prior clinical studies in other indications. While the study did not achieve the primary and component secondary endpoints for the intent-to-treat population, the MultiStem treatment was associated with lower rates of mortality and life threatening adverse events, infections and pulmonary events, and also a reduction in hospitalization. In addition, analyses show that patients who received MultiStem treatment earlier (24 to 36 hours post-stroke) in the study s treatment window had better recovery in comparison to placebo, and this treatment effect appeared to be more pronounced the earlier the MultiStem administration within this timeframe. Analysis of biomarker data obtained from samples of study subjects indicated that MultiStem treatment reduces post-stroke inflammation compared to placebo. Furthermore, it appears that this effect is more pronounced for subjects receiving MultiStem earlier than 36 hours post-stroke. This effect is consistent with our hypothesis regarding mechanisms of action and related preclinical data, and with the clinical data suggesting faster recovery for MultiStem-treated patients. Further analyses are being undertaken, and we are preparing for the next stage of clinical development of this program. If effective, this would represent a substantial increase in the time window for treatment, which currently is limited to several hours.

Table of Contents

We are also interested in the application of MultiStem for other neurological indications that represent areas of significant unmet medical need, such as TBI, which represents the leading cause of disability among children and young adults, and a leading cause of death. Approximately 1.7 million cases of TBI are seen in the United States each year, nearly half a million cases of which are children age 0 to 14 years old. The United States Center for Disease Control and Prevention, or CDC, estimates that more than 5.3 million individuals are living with a disability and have a long-term or lifelong need for help to perform activities of daily living as a result of a TBI. The annual direct and indirect costs for TBI are approximately $60 billion a year, according to the National Institute of Neurological Disorders and Stroke, which is part of the National Institutes of Health, or NIH. In preclinical studies of TBI, administration of MultiStem dramatically reduced the extent of damage caused by a TBI, and promoted accelerated healing of the blood-brain barrier. In 2012, we announced grant funding of up to $3.6 million to further advance our MultiStem programs and cell therapy platform, including further development of MultiStem therapy for the treatment of TBI and further development of our cell therapy formulations and manufacturing capabilities. We received authorization to advance our TBI program into the second phase of the two-stage federal grant award and expect to complete this research in 2016. Upon completion of this research, we expect to be in a position to file an IND for clinical development of MultiStem for treating TBI if we elect to move the program forward into the clinic.

We are also conducting preclinical work exploring the application of MultiStem treatment in other neurological indications. We and collaborators at the Center for Stem Cell and Regenerative Medicine and Case Western Reserve University were awarded $1.0 million in 2010 through the Ohio Third Frontier Biomedical Program to support preclinical and translational research into the MultiStem treatment of spinal cord injury, or SCI. In 2012, we presented data at the Annual Society for Neuroscience meeting that demonstrated that intravenous MultiStem administration one day after SCI results in statistically significant and sustained improvements in gross locomotor function, fine locomotor function and bladder control compared to control treated animals. In 2015, we published in a peer-reviewed article in Nature s *Scientific Reports* new findings that showed that MultiStem cell therapy was effective in improving the health of animals after acute rodent spinal cord injury. Intravenous administration of our cells one day after injury prevented loss of spinal cord tissue, resulting in significant improvement of walking function and urinary control. Further, in 2015 we published of an article in the peer-reviewed *Journal of Neuroinflammation* that provides further evidence that the MAPC cells have the potential to provide benefit following hypoxic ischemia, an injury caused by oxygen deprivation to the brain before or during birth and a leading cause of cerebral palsy. The article also describes the biological mechanisms through which this cell therapy delivers benefit. These findings are consistent with previous findings in related areas, such as ischemic stroke, and add to the scientific foundation supporting MultiStem cell therapy for the treatment of acute neurological injuries.

Over the past several years, we have been utilizing grant funding to investigate the potential for MultiStem treatment for chronic progressive MS based on initial results in preclinical models. In 2012, in collaboration with scientists from Case Western Reserve University, and with the support of Fast Forward and the National Multiple Sclerosis Society, we reported research results that demonstrate the potential benefits of MultiStem therapy for treating MS. In standard preclinical models of MS, researchers observed that MultiStem administration results in sustained behavioral improvements, arrests the demyelination process that is central to the pathology of MS, and supports remyelination of affected axons. We have completed several preclinical studies and intend to continue to advance our MS program with support from Fast Forward.

Cardiovascular Disease Evaluating MultiStem for Treating Damage from a Heart Attack

Cardiovascular disease is an area of significant clinical need and its prevalence is expected to grow in the years ahead. Despite treatment advances in recent years, cardiovascular disease remains the leading cause of death, and represents one of the leading causes of disability around the world. In the United States, approximately 915,000 people suffer a heart attack each year, and approximately 5.7 million individuals in the United States were suffering from heart failure

in 2011, according to the American Heart Association 2015 Statistical Update. Another 8.5 million people suffer from peripheral arterial disease, which is associated with significant morbidity and mortality. In addition, there were approximately 786,600 deaths that occurred from all forms of cardiovascular disease, including 433,600 individuals that died as a result of coronary heart disease or heart failure. According to projections published recently by the American Heart Association in 2011 in the journal *Circulation*, aggregate costs for treating heart disease in the United States are expected to soar in the coming years. In 2010, annual direct costs for treating cardiovascular disease were $273 billion, but by 2030 these are expected to nearly triple, to a projected $818 billion per year. This increase will occur primarily as a result of the aging population, and may not fully reflect the impact of the dramatic escalation in obesity rates that has occurred for both adults and children in recent years, which could further exacerbate the long-term challenges and increase costs associated with cardiovascular disease and other conditions.

Table of Contents

In a Phase 1 clinical trial, we explored MultiStem treatment for damage caused by AMI. Myocardial infarction is one of the leading causes of death and disability in the United States and is caused by the blockage of one or more arteries that supply blood to the heart. Such blockages can be caused, for example, by the rupture of an atherosclerotic plaque deposit. A variety of risk factors are associated with an elevated risk of myocardial infarction or atherosclerosis, including age, high blood pressure, smoking, sedentary lifestyle and genetics. While advances in the diagnosis, prevention and treatment of heart disease have had a positive impact, there is clearly room for improvement myocardial infarction remains a leading cause of death and disability in the United States and the rest of the world.

MultiStem treatment has been studied in validated animal models of AMI, including at both the Cleveland Clinic and the University of Minnesota. Investigators demonstrated that the administration of allogeneic MultiStem cells into the hearts of animals damaged by experimentally induced heart attacks resulted in significant functional improvement in cardiac output and other functional parameters compared with animals that received placebo or no treatment. Furthermore, the administration of immunosuppressive drug was not required and provided no additional benefit in this study, and supports the concept of using MultiStem cells as an allogeneic product. We completed additional preclinical studies in established pig models of AMI using catheter delivery and examining various factors such as the route and method of MultiStem administration, dose ranging, and timing of treatment.

We conducted a multicenter, open-label Phase 1 clinical trial in this indication and the results showed that MultiStem treatment was well tolerated at all dose levels, exhibited a favorable safety profile, and that patients who received MultiStem treatment exhibited meaningful improvements in cardiovascular function, including left ventricular ejection fraction, wall motion scores, and other parameters. These results were published by *Circulation Research* in 2012.

We recently initiated a Phase 2 clinical study for the administration of MultiStem cell therapy to patients that have suffered an AMI. We were awarded a grant for up to $2.8 million in funding from the NIH to support the advancement of this clinical program, and we are currently enrolling patients in our Phase 2 study evaluating the safety and efficacy of MultiStem treatment in subjects who have a non-ST elevated myocardial infarction. The study is double-blind, sham-controlled and is being conducted at leading cardiovascular centers in the United States.

Immunological Disorders MultiStem for Acute Pulmonary Distress, IBD and HSC Transplant Support

Inflammatory and immune disorders represent a significant burden to society. There are over 80 recognized autoimmune disorders, which are conditions caused by an acute or chronic imbalance in the immune system. In these conditions, cells of the immune system begin to attack certain tissues or organs in the body, resulting in tissue damage and loss of function. Some inflammatory and immune conditions are associated with age-related conditions (e.g., rheumatoid arthritis), but some are due to other causes that may be genetic, environmental or a combination of both (e.g., Type 1 diabetes, IBD). Still other conditions may reflect complications associated with the treatment of other conditions (e.g., GvHD, a frequent complication associated with transplant procedures used to treat leukemia or related blood-borne cancers). Each of these conditions shares certain biological characteristics, in that the immune system imbalance results from the inappropriate activation of certain populations of immune cells that subsequently results in significant tissue damage and destruction. This immune imbalance may result in a complex cascade of inflammation that can result in pain, progressive tissue deterioration and loss of function. While currently available immunomodulatory drugs have proven to be effective for some patients, they have failed to adequately address the needs of many other patients that suffer from inflammatory and immune disorders.

In both preclinical and clinical studies, MultiStem cells have shown potent immunomodulatory properties, including the ability to reduce active inflammation through various modes of action, stimulate tissue repair and restore immune

system balance. Accordingly, we believe that MultiStem therapy could have broad application in the area of treating immune system disorders, including certain acute inflammatory conditions, autoimmune diseases and other conditions.

In animal models, MultiStem cells have demonstrated an ability to reduce the severity of pulmonary distress, reduce alveolar edema and return lung endothelial permeability to normal. Intravenous MultiStem treatment early following the onset of the condition may ameliorate the initial hyper-inflammation and reduce the fibrotic activity that follows, thereby speeding the return to and improving the likelihood of more normal lung function, and helping patient recovery.

ARDS is a serious immunological and inflammatory condition characterized by widespread inflammation in the lungs. ARDS can be triggered by pneumonia, sepsis, or other trauma and represents a major cause of morbidity and mortality in the critical care setting. It has significant implications, as it prolongs intensive care unit, or ICU, and hospital stays, and requires convalescence in the hospital and rehabilitation. There are limited interventions and no effective drug treatments for ARDS, making it an area of high unmet clinical need with high treatment costs. Given ARDS high treatment costs, a successful cell therapy could be expected to generate significant savings for the healthcare system by reducing days on a ventilator, days in the intensive care unit and total days in the hospital, and importantly, could reduce mortality and improve quality of life for those suffering from the condition. The medical need for a safe and effective treatment of ARDS is significant due to its high mortality rate, and it affects annually approximately 33,000 patients in the UK and 400,000 to 500,000 patients in Europe, the United States and Japan, alone.

Table of Contents

In January 2015, we announced that our subsidiary, Athersys Limited, received a grant award of up to approximately £2.0 million from Innovate UK to support a Phase 2a clinical study evaluating the administration of MultiStem cell therapy to ARDS patients. We initiated this study in 2016 in both the UK and the United States and it is currently enrolling patients.

Another area of focus is the use of MultiStem cells as adjunctive treatment for HSC/bone marrow transplant used as therapy in hematologic malignancy. For many types of cancer, such as leukemia or other blood-borne cancers, treatment typically involves radiation therapy or chemotherapy, alone or in combination. Such treatment can substantially deplete the cells of the blood and immune system, by reducing the number of stem cells in the bone marrow from which they arise. The more intense the radiation treatment or chemotherapy, the more severe the resulting depletion is of the bone marrow, blood, and immune system. Other tissues may also be affected, such as cells in the digestive tract and in the pulmonary system. The result may be severe anemia, immunodeficiency, substantial reduction in digestive capacity, and other problems that may result in significant disability or death.

One strategy for treating the depletion of bone marrow is to perform a peripheral blood stem cell transplant or a bone marrow transplant. This approach may augment the patient s ability to form new blood and immune cells and provide a significant survival advantage. However, finding a closely matched donor is frequently difficult or even impossible. Even when such a donor is found, in many cases there are immunological complications, such as GvHD, which may result in serious disability or death.

Working with leading experts in the stem cell and bone marrow transplantation field, we studied MultiStem in animal models of radiation therapy and GvHD. In multiple animal models, MultiStem cells have been shown to be non-immunogenic, even when administered without the genetic matching that is typically required for conventional bone marrow or stem cell transplantation. Furthermore, in animal model systems testing immune reactivity of T-cells against unrelated donor tissue, MultiStem has been shown to suppress the T-cell-mediated immune responses that are an important factor in causing GvHD. MultiStem-treated animals also displayed a significant increase in survival relative to controls. As a result, we believe that MultiStem administration in conjunction with or following standard HSC transplantation may have the potential to reduce the incidence or severity of complications and may enhance gastrointestinal function, which is frequently compromised as a result of radiation treatment or chemotherapy.

We completed a Phase 1 clinical trial examining the safety and tolerability of a single dose or repeat dosing of MultiStem cells administered intravenously to patients receiving a bone marrow or hematopoietic stem cell transplant as part of their treatment of leukemia or other hematological condition. The trial was an open label, multicenter trial that involved leading experts in the field of bone marrow transplantation. In 2012, we announced the top-line results from the trial. We observed a consistent safety profile in both the single and multiple dose arms of the study, and at all dose levels tested. Although the trial was not specifically designed to demonstrate efficacy, we also observed clinically meaningful improvement in medically important parameters relative to historical clinical experience, including reduced incidence and severity of acute GvHD, improved relapse free survival, no graft failures, and enhanced engraftment rates relative to other forms of treatment.

We were granted orphan drug designation by the FDA and the EMA for MultiStem treatment in the prevention of GvHD. In February 2015, the MultiStem product was granted Fast Track designation by the FDA for prophylaxis therapy against GvHD following hematopoietic cell transplantation. Subsequently, our registration study design received a positive opinion from the EMA through the Protocol Assessment/Scientific Advice procedure. Furthermore, in December 2015, the proposed registration study received Special Protocol Assessment designation from the FDA, meaning that the trial is adequately designed to support a BLA submission for registration if it is successful.

In 2009, we entered into a collaboration agreement with Pfizer to develop and commercialize MultiStem therapy for the treatment of IBD globally. IBD is a group of inflammatory and autoimmune conditions that affect the colon and small intestine, typically resulting in severe abdominal pain, weight loss, vomiting and diarrhea, and the most common forms of the disease include UC and Crohn s disease. Pfizer conducted a double-blind, placebo-controlled Phase 2 clinical study evaluating MultiStem administration to patients suffering from UC, and enrollment was completed in 2013. In 2014, we and Pfizer reported the initial interim results of the trial. The interim results obtained from the trial showed that a single administration of MultiStem to a patient population with longstanding, chronic advanced disease failed to show a meaningful clinical effect at the eight-week evaluation period. Despite not showing a significant improvement compared to placebo in the primary efficacy endpoints, the MultiStem therapy demonstrated favorable safety and tolerability in the eight weeks following treatment. Furthermore, at four weeks, patients getting MultiStem treatment had a significantly higher proportion of rectal bleeding responders than placebo patients, suggesting the possibility of a transient effect from the single MultiStem dose. However, given the limited evidence of benefit in this study, it remains possible that MultiStem is not beneficial or well suited to this indication, or that a different dosing strategy would need to be employed to achieve a meaningful and durable benefit. Taking these results into account, following an internal portfolio review, Pfizer determined that it would not invest further in this program, as would be required by the collaboration, and notified us of this decision to terminate the license agreement effective in the third quarter of 2015. In connection with the termination, all rights that Pfizer had to the program reverted to us, and intellectual property generated through the collaboration is owned by us.

Table of Contents

Pharmaceutical Programs

Novel 5HT2c agonists for the treatment of obesity and other conditions

Obesity is a substantial contributing factor to a range of diseases that represent the major causes of death and disability in the developed world today. Individuals that are clinically obese have elevated rates of cardiovascular disease, stroke, certain types of cancer and diabetes. According to the CDC, the incidence of obesity in the United States has increased at an epidemic rate during the past 20 years. CDC now estimates that almost 70% of all Americans are overweight, including more than one-third that are considered clinically obese.

We have developed novel pharmaceutical treatments for obesity, which are compounds designed to act by stimulating a key receptor in the brain that regulates appetite and food intake the 5HT2c receptor. The role of this receptor in regulating food intake is well understood in both animal models and humans. Several groups have published research and clinical data that suggest that highly selective compounds that stimulate the 5HT2c receptor, but that do not appreciably stimulate the 5HT2b receptor, which is linked to cardiovascular problems, could be developed that maintain the desired appetite suppressive effects without the cardiovascular toxicity. Clinical data supports this hypothesis and also suggests that the 5HT2c agonists may also cause a statistically significant reduction in the amount of sugar in the blood, as measured by fasting blood glucose and HbA1c levels, which are both clinically relevant measures for patients suffering from diabetes.

In 2012, the FDA approved Belviq (Lorcaserin), a 5HT2c agonist, for the treatment of obesity. We believe this represents a significant event for our program because it illustrates that the FDA recognizes and agrees with the concept that 5HT2c agonists that display appropriate selectivity, biological activity and clinical safety are approvable for indications such as obesity.

Our clinical candidates were developed as potent and selective orally administered compounds that stimulate the 5HT2c receptor, but that avoid the 5HT2b receptor and other receptors, such as 5HT2a, or other receptors that could cause adverse side effects, and our compounds have been tested in extensive preclinical studies. We believe that clinical trials will demonstrate that this achievement represents a significant advance in the field, and that the potency and selectivity profile displayed by our compounds will result in substantially better efficacy and a cleaner safety and tolerability profile, as well as a more convenient dosing schedule than other 5HT2c agonist programs, including Lorcaserin. We also evaluated certain of our compounds when administered as a monotherapy or in conjunction with other weight loss agents, and have observed effectiveness with both approaches. Further, certain potent and highly selective compounds that we developed display a profile that we believe may have utility in treating schizophrenia. We evaluated some of these compounds in preclinical models of schizophrenia and have observed that they exhibit efficacy in these models.

We may elect to enter into a partnership to advance the development of our 5HT2c agonist program, either for the treatment of obesity, schizophrenia, or both indications, as well as for certain programs involving MultiStem.

Collaborations and Partnerships

Healios

On January 8, 2016, we entered into a license agreement with Healios to develop and commercialize MultiStem cell therapy for ischemic stroke in Japan, and to provide Healios with access to Athersys proprietary MAPC technology for use in Healios organ bud program, initially for transplantation to treat liver disease or dysfunction. Under the agreement, Healios also obtained a right to expand the scope of the collaboration to include the exclusive rights to

develop and commercialize MultiStem for the treatment of two additional indications in Japan, which include ARDS and another indication in the orthopedic area, and to include all indications for the organ bud program. Healios will develop and commercialize the MultiStem product in Japan, and we will provide the manufactured product to Healios.

Under the terms of the agreement, we received an up-front cash payment of $15 million from Healios, and the collaboration can be expanded at Healios election. If Healios expands the collaboration, we will be entitled to receive a cash payment of $10 million. Healios may exercise its option to expand the collaboration by the date that is the later of (i) December 31, 2016 and (ii) the receipt of the initial results from Athersys ongoing ARDS clinical trial.

For the ischemic stroke indication, we may also receive additional success-based development and regulatory approval milestones aggregating up to $30 million, as well as potential sales milestones of up to $185 million. We will also receive tiered royalties on product sales, starting in the low double digits and increasing incrementally into the high teens depending on net sales levels. Following the expiration or termination of the Agreement, Healios shall pay reduced royalties for continued use of our trademarks. Additionally, we will receive payments for product supplied to Healios under a manufacturing supply agreement.

Table of Contents

If Healios exercises the option to expand to collaboration, we would be entitled to receive royalties from product sales and success-based development, regulatory approval and sales milestones, as well as payments for product supply related to the additional indications covered by the option.

For the organ bud product, we are entitled to receive a fractional royalty percentage on net sales of the organ bud products and will receive payments for manufactured product supplied to Healios under a manufacturing supply agreement. Additionally, we have a right of first negotiation for commercialization of an organ bud product in North America, with such right expiring on the later of (i) the date five years from the effective date of the Agreement and (ii) 30 days after authorization to initiate clinical studies on an organ bud product under the first investigational new drug application or equivalent in Japan, North America or the European Union.

The agreement will expire automatically when there are no remaining intellectual property rights subject to the license. Additionally, Healios may terminate the agreement under certain circumstances, including for material breach and without cause upon advance written notice. We may terminate the agreement if there is an uncured material breach of the agreement by Healios.

Following termination of the agreement, the licenses granted to Healios to develop and commercialize MultiStem in Japan for ischemic stroke, and if the option to expand is exercised, for ARDS and the other orthopedic indication, will terminate and ownership of regulatory documents and clinical data will revert to us. Further, the nonexclusive license to intellectual property developed by Healios during the collaboration shall be expanded to include Japan and shall survive termination.

Chugai

In February 2015, we entered into a license agreement with Chugai to develop and commercialize MultiStem cell therapy for ischemic stroke in Japan on an exclusive basis. Under the agreement, Chugai was responsible for the development and commercialization of MultiStem for ischemic stroke in Japan. Under the terms of the agreement, we received an up-front cash payment of $10 million from Chugai and were entitled to receive a near-term payment of $7 million tied to the results of our ongoing Phase 2 clinical trial in ischemic stroke, which was not paid by Chugai, thus triggering our right to terminate the agreement. We agreed with Chugai to terminate the agreement in October 2015 when the parties were unable to reach an agreement on a potential modification of the financial terms of the agreement and on development strategy in Japan, in light of the 90-day interim results from our Phase 2 clinical study. In connection with the termination, all rights that Chugai had to the program reverted to us, and intellectual property generated through the collaboration is owned by us.

Pfizer

In 2009, we entered into a collaboration agreement with Pfizer to develop and commercialize MultiStem therapy for the treatment of IBD for the worldwide market on an exclusive basis. Under the terms of the agreement, we received a non-refundable up-front cash payment of $6.0 million from Pfizer and research funding during the initial phase of the collaboration that ended in 2012. MultiStem cell therapy was evaluated by Pfizer in a Phase 2 clinical study exploring administration to patients with UC, a common form of IBD. Overall, the study results were disappointing, even though a single administration of the cell therapy may have had some short-term beneficial effects. Taking these results into account, following an internal portfolio review, Pfizer determined that it would not invest further in this program, as would be required by the collaboration, and notified us of this decision to terminate the license agreement effective in the third quarter of 2015. In connection with the termination, all rights that Pfizer had to the program reverted to us, and intellectual property generated through the collaboration is owned by us.

University of Minnesota

In 2003, we acquired the exclusive rights to the MAPC technology originally developed at the University of Minnesota pursuant to a license agreement with the University. Over the convening years, we further developed this technology, including the manufacturing of the cells for use in ongoing clinical trials and ultimately, commercialization. We refer to this lead product as the MultiStem cell therapy platform. We are obligated to pay the University of Minnesota a royalty based on worldwide commercial sales of licensed products if covered by a valid licensed patent, as well as sublicensing fees and fees related to manufactured product proceeds, as defined. The low single-digit royalty and sublicense fee rate may be reduced if third-party payments for intellectual property rights are necessary or commercially desirable to permit the manufacture or sale of the product. The royalty payment obligation and the term of the license agreement expire upon the last to expire licensed patent. Based on our current patent portfolio, and absent any continuations, renewals or extensions of existing patents, the last licensed patent to expire under the license agreement is currently expected to expire in 2029. The license agreement does not have a specific termination date, but the University of Minnesota can terminate the license agreement for an uncured event of default, as defined, or upon our bankruptcy and we can terminate the license agreement at any time.

Table of Contents

RTI

In 2010, we entered into an agreement with RTI to develop and commercialize MAPC technology-based biologic implants for certain orthopedic applications in the bone graft substitutes market on an exclusive basis. Under the terms of our RTI agreement, we received $5.0 million of license fees in installments during 2010-2012. In accordance with the agreement, we are also eligible to receive an additional $35.5 million in cash payments upon the successful achievement of certain commercial milestones, though there can be no assurance that such milestones will be achieved, and no significant milestone payments were received as of December 31, 2015. In addition, we receive tiered royalties on worldwide commercial sales of implants using our technologies based on a royalty rate starting in the mid-single digits and increasing into the mid-teens. We began receiving royalties from RTI in 2014. Royalties may be subject to a reduction if third-party payments for intellectual property rights are necessary or commercially desirable to permit the manufacture or sale of the product.

The term of the agreement is the longer of (i) five years from the effective date in 2010, (ii) two years after the last sale of a licensed product, (iii) the last to expire of any past, present or future licensed patent, and (iv) the life of trade secrets applicable to the licensed product. Either party can terminate the agreement upon the other party s bankruptcy or for an uncured material breach. RTI can terminate the agreement if our rights to our technology expire such that there is a material effect on the development and commercialization of the licensed products. We can terminate the agreement if RTI has not reached a specified target of sales of the licensed product within five years of the effective date or a specified target of annual sales each year thereafter.

Bristol-Myers Squibb

In 2000, we entered into a collaboration with Bristol-Myers Squibb to provide cell lines expressing well validated drug targets produced using our RAGE technology for compound screening and development. This initial collaboration was expanded in 2002 and again in 2006, and was in its final phase as amended in 2009. Bristol-Myers Squibb uses the cell lines in its internal drug development programs and, in exchange, we receive license fee and milestone payments and would be entitled to receive royalties on the sale of any approved products. Depending on the use of a cell line by Bristol-Myers Squibb and the progress of drug development programs benefiting from the use of such a cell line, we could receive as much as approximately $5.5 million per cell line in additional license fees and milestone payments, though we cannot assure you that any further milestones will be achieved or that we will receive any additional milestone payments. As of December 31, 2015, we received an aggregate amount of $2.1 million in milestone payments and $9.8 million in license fees since the inception of our collaboration with Bristol-Myers Squibb. While Bristol-Myers Squibb still has a few active programs using our cell lines, we expect this collaboration and the associated revenues to phase out over time.

The Bristol-Myers Squibb collaboration does not have a specific termination date, but will terminate when Bristol-Myers Squibb no longer has an obligation to pay us royalties, which obligation generally continues until the later of the expiration of the Bristol-Myers Squibb patent covering an approved product and ten years after commercial sales of that product began. If either party breaches its material obligations and fails to cure that breach within 60 days after notice from the non-breaching party, the non-breaching party may terminate the collaboration.

Competition

We face significant competition with respect to the various dimensions of our business. With regard to our efforts to develop MultiStem as a novel stem cell therapy, currently, there are a number of companies that are actively developing stem cell products, which encompass a range of different cell types, including embryonic stem cells, umbilical cord stem cells, adult-derived stem cells and processed bone marrow derived cells.

Mesoblast Limited, or Mesoblast, is currently engaged in clinical trials evaluating the safety and efficacy of Revascor, an allogeneic stem cell product based on mesenchymal stem cell precursors that are obtained from healthy consenting donors. These cells also appear to display limited expansion potential and biological plasticity. Additionally, Mesoblast is developing Prochymal, a mesenchymal stem cell product candidate that it acquired from Osiris Therapeutics, Inc., and Mesoblast has a partnership with Cephalon, Inc., or Cephalon, now owned by Teva Pharmaceuticals, Inc., for treating conditions including congestive heart failure, AMI, Parkinson s disease and Alzheimer s disease.

Table of Contents

Other public companies are developing stem-related therapies, including Aastrom Biosciences, Inc., or Aastrom, Stem Cells Inc., Johnson & Johnson, Celgene Corporation, or Celgene, Advanced Cell Technology, Inc., CRYO-CELL International, Inc., Pluristem Therapeutics, Inc., or Pluristem, and Cytori Therapeutics, Inc., or Cytori. In addition, private companies, such as Gamida Cell Ltd., Plureon Corporation, Tigenix NV and others, are also developing cell therapy related products or capabilities. Given the magnitude of the potential opportunity for stem cell therapy, we expect competition in this area to intensify in the coming years.

We also face competition in our efforts to develop compounds for the treatment of obesity. In 2012, two new treatments were approved by the FDA for the treatment of obesity, Belviq (Lorcaserin), which was developed by Arena Pharmaceuticals, Inc., or Arena, and Qsymia (a proprietary combination of phentermine and topiramate), which was developed by Vivus, Inc., or Vivus. In 2014, another new drug combination was approved, Contrave (a proprietary combination of naltrexone and bupropion), which was developed by Orexigen. Prior to these recent approvals, there was one approved therapeutic product on the market for obesity, Xenical (also known as Alli), which is marketed by F. Hoffman - LaRoche Ltd., or Roche. Potential side effects associated with taking Xenical / Alli include cramping, intestinal discomfort, flatulence, diarrhea, and leakage of oily stool. Another obesity drug, Meridia, was approved for clinical use and marketed by Abbott Pharmaceuticals, but was withdrawn from the market due to concerns regarding increased risk of cardiovascular disease and stroke among patients taking the drug.

There are many other companies that have previously attempted or are attempting to develop novel treatments for obesity, and a wide range of approaches are being taken. Some of these companies include large, multinational pharmaceutical companies such as Bristol-Myers Squibb, Merck & Co., Inc., Roche, Sanofi, GlaxoSmithKline plc, or GlaxoSmithKline, Eli Lilly and Company and others. There are also a variety of biotechnology companies developing treatments for obesity, including Neurosearch, Amgen Inc., or Amgen, Regeneron Pharmaceuticals, Inc., Nastech Pharmaceutical Company, Alizyme plc, Amylin Pharmaceuticals, Inc., Neurocrine Biosciences, Inc., Shionogi & Co., Ltd., Metabolic Pharmaceuticals Limited, Kyorin Pharmaceutical Co., Ltd., and others. It is likely that, given the magnitude of the market opportunity, many companies will continue to focus on the obesity area, and that competition will remain high. If we are successful at developing a 5HT2c agonist as a safe and effective treatment for obesity, it is likely that other companies will attempt to develop safer and more effective compounds in the same class, or will attempt to combine therapies in an effort to establish a safer and more effective therapeutic product.

We believe our most significant competitors are fully integrated pharmaceutical companies and biotechnology companies that have substantially greater financial, technical, sales, marketing, and human resources than we do. These companies may succeed in obtaining regulatory approval for competitive products more rapidly than we can for our products. In addition, our competitors may develop technologies and products that are cheaper, safer or more effective than those being developed by us or that would render our technology obsolete. Furthermore, some of these companies may feel threatened by our activities and attempt to delay or impede our efforts to develop our products or apply our technologies.

Intellectual Property

We rely on a combination of patent applications, patents, trademarks, and contractual provisions to protect our proprietary rights. We believe that to have a competitive advantage, we must develop and maintain the proprietary aspects of our technologies. Currently, we require our officers, employees, consultants, contractors, manufacturers, outside scientific collaborators and sponsored researchers, and other advisors to execute confidentiality agreements in connection with their employment, consulting, or advisory relationships with us, where appropriate. We also require our employees, consultants, and advisors that we expect to work on our products to agree to disclose and assign to us all inventions conceived during the work day, developed using our property, or which relate to our business. We currently have over 230 patents for our technologies.

We have a broad patent estate with claims directed to compositions, methods of production, and methods of use of certain non-embryonic stem cells and related technologies. We developed, acquired and exclusively licensed intellectual property covering our cell therapy product candidates and other applications in the field. Our broad intellectual property portfolio consists of approximately 175 issued patents (of which seventeen are United States patents) and more than 185 global patent applications around our stem cell technology and MultiStem product platform. This includes sixteen United States patents and more than 120 international patents that apply to MAPC and related products, such as MultiStem. The current intellectual property estate, which incorporates additional filings and may broaden over time, could provide coverage for our stem cell product candidates, manufacturing processes and methods of use through 2032 and beyond. Furthermore, an extended period of market exclusivity may apply for certain products (e.g., exclusivity periods for orphan drug designation or biologics).

We have been active in the development, improvement and protection of our intellectual property portfolio through our prosecution efforts, collaborative research efforts, and in-licensing, among other things. From time-to-time, we will also engage in adversarial processes, such as interference or litigation, to protect or advance certain patents or applications. These activities represent an important cost of doing business, and can result in successes and setbacks due to the nature of the processes. For example, over the past several years, we have been involved in several proceedings in the United States with a third party focused on a technology developed after the MAPC technology. In an earlier proceeding, our success resulted in the issuance of a patent. However, in a more recent proceeding, an interference board ruled that this patent and another application of ours should be cancelled, but such ruling may be advanced into an appeal process. Over time, we expect to be involved in similar proceedings with the objective of developing the portfolio to support and protect development and commercialization of our or our licensees cell therapy products.

Table of Contents

We also have established a broad intellectual property portfolio related to our small molecule product candidates and functional genomics technologies. We have a broad patent estate with claims directed to compositions, methods of making, and methods of using our small molecule drug candidates. We have six United States patents and three patent applications with broad claims directed to selective 5HT2c agonists discovered at Athersys that currently provide patent coverage through as late as 2029. From our Histamine H3 program, we have six United States patents with broad claims directed to compounds discovered at Athersys from two distinct chemical series that currently provide patent coverage through as late as 2028. In addition, we currently have 37 issued patents (16 United States patents and 21 international patents) relating to compositions and methods for the RAGE technology that currently provide patent coverage through as late as 2020, and five United States patents and eight international patents relating to human proteins and candidate drug targets that we identified through the application of RAGE and to our other technologies that currently provide patent coverage through as late as 2022. The RAGE technology was developed by Dr. John Harrington and other Athersys scientists internally in the mid-1990s.

We believe that we have broad freedom to use and commercially develop our technologies and product candidates. However, in the event that we or our collaborators are developing, manufacturing, or selling potential products that are claimed to infringe a third party s intellectual property, a loss in litigation may prevent us from commercializing our products, unless that party grants us rights to use its intellectual property. Further, we may not be able to obtain any licenses required under any patents or proprietary rights of third parties on acceptable terms, or at all. Even if we were able to obtain rights to the third party s intellectual property, these rights may be non-exclusive, thereby giving our competitors access to the same intellectual property. Ultimately, we may be unable to commercialize some of our potential products or may have to cease some of our business operations as a result of patent infringement claims, which could severely harm our business.

Research and Development

Our research and development costs, which consist primarily of costs associated with external clinical trial costs, preclinical study fees, manufacturing costs, salaries and related personnel costs, legal expenses resulting from intellectual property application processes, and laboratory supply and reagent costs, were $21.3 million in 2015, $23.4 million in 2014 and $20.5 million in 2013.

Government Regulation

Any products we may develop and our research and development activities are subject to stringent government regulation in the United States by the FDA and, in many instances, by corresponding foreign and state regulatory agencies. The European Union, or EU, has vested centralized authority in the EMA and Committee on Proprietary Medicinal Products, or CPMP, to standardize review and approval across EU member nations. In Japan, PDMA, a division of the Ministry of Health, Labour and Welfare, or MHLW, regulates the development and commercialization of medical therapies. Recently, Japan s parliament enacted new legislation to promote the safe and accelerated development of treatments using stem cells. The new regenerative medicine law and revised pharmaceutical affairs law define products containing stem cells as regenerative medicine products and allow for the conditional approval of such products if safety has been confirmed in clinical trials, even if their efficacy has not been fully demonstrated. The legislation creates a new, faster pathway for cell therapy product approval, and offers the potential to enable more rapid entry in the Japanese market. The MHLW has been directed to develop and adopt new rules and procedures to implement this legislation.

These regulatory agencies enforce comprehensive statutes, regulations and guidelines governing the drug development process. This process involves several steps. Initially, a company must generate preclinical data to show safety before human testing may be initiated. In the United States, a drug company must submit an IND to the FDA prior to

securing authorization for human testing. The IND must contain adequate data on product candidate chemistry, toxicology and metabolism and, where appropriate, animal research testing to support initial safety.

A Clinical Trial Authorization, or CTA, is the European equivalent of the IND. CTA requirements are issued by each competent authority within the European Union and are enacted by local laws and Directives.

Any of our product candidates will require regulatory approval and compliance with regulations made by United States and foreign government agencies prior to commercialization in such countries. The process of obtaining FDA or foreign regulatory agency approval has historically been extremely costly and time consuming. The FDA and equivalent foreign regulatory authorities (such as the EMA or PMDA) regulate, among other things, the development, testing, manufacture, safety, efficacy, record keeping, labeling, storage, approval, advertising, promotion, sale, and distribution of biologics and new drugs.

Table of Contents

The standard process required by the FDA before a pharmaceutical agent may be marketed in the United States includes:

- preclinical tests in animals that demonstrate a reasonable likelihood of safety and effectiveness (if possible) in human patients;

- submission to the FDA of an IND, which must become effective before clinical trials in humans can commence. If Phase 1 clinical trials are to be conducted initially outside the United States, a different regulatory filing is required, depending on the location of the trial;

- adequate and well controlled human clinical trials to establish the safety and efficacy of the drug or biologic product for the intended disease indication;

- for drugs, submission of a New Drug Application, or NDA, or a BLA with the FDA; and

- FDA approval of the NDA or BLA before any commercial sale or shipment of the drug.

Preclinical studies can take several years to complete, and there is no guarantee that an IND based on those studies will become effective to permit clinical trials to begin. The clinical development phase generally takes ten to fifteen years, or longer, to complete (i.e., from the initiation of Phase 1 through completion of Phase 3 studies), and such sequential studies may overlap or be combined. After successful completion of clinical trials for a new drug or biologic product, FDA approval of the NDA or BLA must be obtained. This process requires substantial time and effort and there is no assurance that the FDA will accept the NDA or BLA for filing and, even if filed, that the FDA will grant approval. In the past, the FDA s approval of an NDA or BLA has taken, on average, one to two years, but in some instances may take substantially longer. If questions regarding safety or efficacy arise, additional studies may be required, followed by a resubmission of the NDA or BLA. Review and approval of an NDA or BLA can take up to several years. The FDA and other Regulatory agencies such as EMA and PMDA have regulations that allow for faster approval paths and review cycles that may reduce clinical development phase completion to between five and seven years to commercialization. Such regulations include but are not limited to accelerated/conditional approval paths and review cycles of between six to ten months (priority/accelerated review cycles). However, there are specific criteria that must be met to qualify for these paths, such as high unmet medical need, orphan designation, fast track, exceptional circumstances and breakthrough designation.

In addition to obtaining FDA approval for each product, each drug manufacturing facility must be inspected and approved by the FDA. All manufacturing establishments are subject to inspections by the FDA and by other federal, state, and local agencies, and must comply with good manufacturing practices, or GMP, requirements. We do not currently have any GMP manufacturing capabilities, and will rely on contract manufacturers to produce material for any clinical trials that we may conduct.

We must also obtain regulatory approval in other countries in which we intend to market any drug. The requirements governing conduct of clinical trials, product licensing, pricing, and reimbursement vary widely from country to country. FDA approval does not ensure regulatory approval in other countries. The current approval process varies from country to country, and the time spent in gaining approval varies from that required for FDA approval. In some

countries, the sale price of the drug must also be approved. The pricing review period often begins after market approval is granted. Even if a foreign regulatory authority approves a drug product, it may not approve satisfactory prices for the product.

In addition to regulations enforced by the FDA and international regulatory agencies, we are also subject to regulation under the Occupational Safety and Health Act, the Environmental Protection Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act, and other present and potential future federal, state, or local regulations. Our research and development involves the controlled use of hazardous materials, chemicals, biological materials, and various radioactive compounds. Although we believe that our safety procedures for handling and disposing of such materials currently comply in all material respects with the standards prescribed by state and federal regulations, the risk of accidental contamination or injury from these materials cannot be completely eliminated. In the event of such an accident, we could be held liable for any damages that result and any such liability could exceed our available resources.

Employees

We believe that our success will be based on, among other things, the quality of our clinical programs, our ability to invent and develop superior and innovative technologies and products, and our ability to attract and retain capable management and other personnel. We have assembled a high quality team of scientists, clinical development managers, and executives with significant experience in the biotechnology and pharmaceutical industries.

As of December 31, 2015, we employed 60 full-time employees, including 17 with Ph.D. degrees. In addition to our employees, we also use the service and support of outside consultants and advisors. None of our employees is represented by a union, and we believe relationships with our employees are good.

Table of Contents

Available Information

We use the Investors section of our web site, www.athersys.com, as a channel for routine distribution of important information, including news releases, analyst presentations and financial information. We post filings as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC, including our annual, quarterly, and current reports on Forms 10-K, 10-Q, and 8-K; our proxy statements; and any amendments to those reports or statements. All such postings and filings are available on the Investors section of our web site free of charge. In addition, this web site allows investors and other interested persons to sign up to automatically receive e-mail alerts when we post news releases and financial information on our web site. The SEC also maintains a web site, www.sec.gov, that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The content on any web site referred to in this annual report on Form 10-K is not incorporated by reference into this annual report unless expressly noted.

Table of Contents

ITEM 1A. RISK FACTORS

The statements in this section, as well as statements described elsewhere in this annual report, or in other SEC filings, describe risks that could materially and adversely affect our business, financial condition and results of operations, which could also cause the trading price of our equity securities to decline. These risks are not the only risks that we face. Our business, financial condition and results of operations could also be affected by additional factors that are not presently known to us or that we currently consider to be immaterial to our operations.

We have incurred losses since inception and we expect to incur significant net losses in the foreseeable future and may never become profitable.

Since our inception in 1995, we incurred significant losses and negative cash flows from operations. We incurred net losses of $16 million in 2015, $22 million in 2014 and $31 million in 2013. As of December 31, 2015, we had an accumulated deficit of $303 million and anticipate incurring additional losses for at least the next several years. We expect to spend significant resources over the next several years to enhance our technologies and to fund research and development of our pipeline of potential products. To date, substantially all of Athersys revenue has been derived from corporate collaborations, license agreements and government grants. In order to achieve profitability, we must develop products and technologies that can be commercialized by us or through our existing or future collaborations. Our ability to generate revenues and become profitable will depend on our ability, alone or with potential collaborators, to timely, efficiently and successfully complete the development of our product candidates. We have never earned revenue from selling a product and we may never do so, as none of our product candidates have been approved for sale, since they are currently being tested in humans and animal studies. We cannot assure you that we will ever earn sales revenue or that we will ever become profitable. If we sustain losses over an extended period of time, we may be unable to continue our business.

We will need substantial additional funding to develop our products and for our future operations. If we are unable to obtain the funds necessary to do so, we may be required to delay, scale back or eliminate our product development activities or may be unable to continue our business.

The development of our product candidates will require a commitment of substantial funds to conduct the costly and time-consuming research, which may include preclinical and clinical testing, necessary to obtain regulatory approvals and bring our products to market. Net cash used in our operations was $14 million in 2015, $26 million in 2014 and $23 million in 2013.

At December 31, 2015, we had $23 million of cash, cash equivalent and investments, and we will need substantially more to advance our product candidates through development. Furthermore, we will need to add additional capital to fund our operations through the completion of our current clinical trials. Our future capital requirements will depend on many factors, including:

- our ability to raise capital to fund our operations;
- the progress, scope, costs, and results of our preclinical and clinical testing of any current or future product candidates;
- the possibility of delays in, adverse events of, and excessive costs of the development process;

the cost of prosecuting, defending and enforcing patent claims and other intellectual property rights;

the time and cost involved in obtaining regulatory approvals;

the cost of manufacturing our product candidates;

expenses related to complying with good manufacturing practices, or GMP, of therapeutic product candidates;

costs of financing the purchases of additional capital equipment and development technologies;

competing technological and market developments;

our ability to establish and maintain collaborative and other arrangements with third parties to assist in bringing our products to market and the cost of such arrangements;

the amount and timing of payments or equity investments that we receive from collaborators or changes in or terminations of future or existing collaboration and licensing arrangements and the timing and amount of expenses we incur to supporting these collaborations and license agreements;

costs associated with the integration of any new operation, including costs relating to future mergers and acquisitions with companies that have complementary capabilities;

expenses related to the establishment of sales and marketing capabilities for products awaiting approval or products that have been approved;

the level of our sales and marketing expenses; and

our ability to introduce and sell new products.

Table of Contents

The extent to which we utilize our existing equity purchase agreement with Aspire Capital Fund, LLC, or Aspire Capital, as a source of funding will depend on a number of factors, including the prevailing market price of our common stock, the volume of trading in our common stock and the extent to which we are able to secure funds from other sources. The number of shares that we may sell to Aspire Capital under the purchase agreement on any given day and during the term of the agreement is limited. Additionally, we and Aspire Capital may not affect any sales of shares of our common stock under the purchase agreement during the continuance of an event of default. Even if we are able to access the $30 million currently available under the purchase agreement as of, we will still need additional capital to fully implement our business, operating and development plans.

We have secured capital historically from grant revenues, collaboration proceeds, and debt and equity offerings. We will need to secure substantial additional capital to fund our future operations. We cannot be certain that additional capital will be available on acceptable terms or at all. In recent years, it has been difficult for companies to raise capital due to a variety of factors, which may or may not continue. To the extent we raise additional capital through the sale of equity securities, including to Aspire Capital, the ownership position of our existing stockholders could be substantially diluted. If additional funds are raised through the issuance of preferred stock or debt securities, these securities are likely to have rights, preferences and privileges senior to our common stock. Fluctuating interest rates could also increase the costs of any debt financing we may obtain.

Failure to successfully address ongoing liquidity requirements will have a material adverse effect on our business. If we are unable to obtain additional capital on acceptable terms when needed, we may be required to take actions that harm our business and our ability to achieve cash flow in the future, including possibly the surrender of our rights to some technologies or product opportunities, delaying our clinical trials or curtailing or ceasing operations.

We are heavily dependent on the successful development and commercialization of MultiStem products, and if we encounter delays or difficulties in the development of this product candidate, our business could be harmed.

Our success is heavily dependent upon the successful development of MultiStem products for certain diseases and conditions involving acute or ischemic injury or immune system dysfunction. Our business could be materially harmed if we encounter difficulties in the development of this product candidate, such as:

- delays in the ability to manufacture the product in quantities or in a form that is suitable for any required preclinical studies or clinical trials;
- an inability to produce the product at an appropriate cost or to scale for commercialization;
- delays in the design, enrollment, implementation or completion of required preclinical studies and clinical trials;
- an inability to follow our current development strategy for obtaining regulatory approval from regulatory authorities because of changes in the regulatory approval process;
- less than desired or complete lack of efficacy or safety in preclinical studies or clinical trials; and

intellectual property constraints that prevent us from making, using or commercializing the product candidate.

Our product candidates are currently in the development stage and we have no therapeutic products approved for sale. If we are unable to develop, obtain regulatory approval or market any of our product candidates, our financial condition will be negatively affected, and we may have to curtail or cease our operations.

Many factors, known and unknown, can adversely affect clinical trials and the ability to evaluate a product s efficacy. During the course of treatment, patients can die or suffer other adverse events for reasons that may or may not be related to the proposed product being tested. Even if unrelated to our product, certain events can nevertheless adversely impact our clinical trials. As a result, our ability to ultimately develop and market the products and obtain revenues would suffer.

Even promising results in preclinical studies and initial clinical trials do not ensure successful results in later clinical trials, which test broader human use of our products. Many companies in our industry have suffered significant setbacks in advanced clinical trials, despite promising results in earlier trials.

We are in the early stage of product development, and we are dependent on the application of our technologies to discover or develop therapeutic product candidates. We currently do not sell any approved therapeutic products and do not expect to have any products commercially available for several years, if at all. You must evaluate us in light of the uncertainties and complexities affecting an early stage biotechnology company. Our product candidates require additional research and development, preclinical testing, clinical testing and regulatory review and/or approvals or clearances before marketing. To date, no one to our knowledge has commercialized any therapeutic products using our technologies and we might never commercialize any product using our technologies and strategy. In addition, we may not succeed in developing new product candidates as an alternative to our existing portfolio of product candidates. If our current product candidates are delayed or fail, or we fail to successfully develop and commercialize new product candidates, our financial condition may be negatively affected, and we may have to curtail or cease our operations.

Table of Contents

We may not successfully maintain our existing collaborative and licensing arrangements, or establish new ones, which could adversely affect our ability to develop and commercialize our product candidates.

A key element of our business strategy is to commercialize some of our product candidates through collaborations with other companies. Our strategy includes establishing collaborations and licensing agreements with one or more pharmaceutical, biotechnology or device companies, preferably after we have advanced product candidates through the initial stages of clinical development. However, we may not be able to establish or maintain such licensing and collaboration arrangements necessary to develop and commercialize our product candidates. Even if we are able to maintain or establish licensing or collaboration arrangements, these arrangements may not be on favorable terms and may contain provisions that will restrict our ability to develop, test and market our product candidates. Any failure to maintain or establish licensing or collaboration arrangements on favorable terms could adversely affect our business prospects, financial condition or ability to develop and commercialize our product candidates.

Our agreements with our collaborators and licensees may have provisions that give rise to disputes regarding the rights and obligations of the parties. These and other possible disagreements could lead to termination of the agreement or delays in collaborative research, development, supply, or commercialization of certain product candidates, or could require or result in litigation or arbitration. Moreover, disagreements could arise with our collaborators over rights to intellectual property or our rights to share in any of the future revenues of products developed by our collaborators. These kinds of disagreements could result in costly and time-consuming litigation. Any such conflicts with our collaborators could reduce our ability to obtain future collaboration agreements and could have a negative impact on our relationship with existing collaborators.

Currently, our material collaborations and licensing arrangements are our collaborations with Healios to develop and commercialize MultiStem cell therapy for the treatment of ischemic stroke in Japan and potentially other conditions, and RTI to develop and commercialize MAPC technology-based biologic implants for certain orthopedic applications in the bone graft substitutes market, and our license agreements with third parties pursuant to which we license certain aspects of our technologies. These arrangements may not have specific termination dates; rather, each arrangement terminates upon the occurrence of certain events.

If our collaborators do not devote sufficient time and resources to successfully carry out their contracted duties or meet expected deadlines, we may not be able to advance our product candidates in a timely manner or at all.

Our success depends on the performance by our collaborators of their responsibilities under our collaboration arrangements. Some potential collaborators may not perform their obligations in a timely fashion or in a manner satisfactory to us. Typically, we cannot control the amount of resources or time our collaborators may devote to our programs or potential products that may be developed in collaboration with us. We are currently involved in multiple research and development collaborations with academic and research institutions. These collaborators frequently depend on outside sources of funding to conduct or complete research and development, such as grants or other awards. In addition, our academic collaborators may depend on graduate students, medical students, or research assistants to conduct certain work, and such individuals may not be fully trained or experienced in certain areas, or they may elect to discontinue their participation in a particular research program, creating an inability to complete ongoing research in a timely and efficient manner. As a result of these uncertainties, we are unable to control the precise timing and execution of any experiments that may be conducted.

Additionally, our current or future corporate collaborators will retain the ability to pursue other research, product development or commercial opportunities that may be directly competitive with our programs. If these collaborators elect to prioritize or pursue other programs in lieu of ours, we may not be able to advance product development programs in an efficient or effective manner, if at all. If a collaborator is pursuing a competitive program and

encounters unexpected financial or capability limitations, they may be motivated to reduce the priority placed on our programs or delay certain activities related to our programs or be unwilling to properly fund their share of the development expenses for our programs. Any of these developments could harm our product and technology development efforts, which could seriously harm our business.

We may experience delays in clinical trials and regulatory approval relating to our products that could adversely affect our financial results and our commercial prospects for our pharmaceutical or stem cell products.

In addition to the regulatory requirements for our pharmaceutical programs, we will also require regulatory approvals for each distinct application of our stem cell product. In each case, we will be required to conduct clinical trials to demonstrate safety and efficacy of MultiStem, or various products that incorporate or use MultiStem. For product candidates that advance to clinical testing, we cannot be certain that we or a collaborator will successfully complete the clinical trials necessary to receive regulatory product approvals. This process is lengthy and expensive.

We intend to seek approval for our product candidates through the FDA approval process in the United States, and through other international agencies. To obtain regulatory approvals, we must, among other requirements, complete clinical trials showing that our products are safe and effective for a particular indication. Under the approval process, we must submit clinical and non-clinical data to demonstrate the product is safe and effective. For example, we must be able to provide data and information, which may include extended pharmacology, toxicology, reproductive toxicology, bioavailability and genotoxicity studies, to establish suitability for late stage clinical trials.

Table of Contents

All of our product candidates are in clinical development. As these programs progress through clinical development, or complete additional non-clinical testing, an indication of a lack of safety or lack of efficacy may result in the early termination of an ongoing study, or may cause us or any of our collaborators to forego further development of a particular product candidate or program. The FDA or other regulatory agencies may require extensive clinical trials or other testing prior to granting approval, which could be costly and time consuming to conduct. Any of these developments could hinder, and potentially prohibit, our ability to commercialize our product candidates. We cannot assure you that clinical trials will demonstrate that our products are safe and effective.

Additionally, we may not be able to find acceptable patients or may experience delays in enrolling patients for our currently planned or any future clinical trials. The FDA, international regulatory agencies or we may suspend our clinical trials at any time if it is believed that we are exposing the subjects participating in the trials to unacceptable health risks. The regulatory authorities or institutional review boards and/or institutional biosafety committees at the medical institutions and healthcare facilities where we seek to sponsor clinical trials may not permit a trial to proceed or may suspend any trial indefinitely if they find deficiencies in the conduct of the trials.

Product development costs to us and our potential collaborators will increase if we have delays in testing or approvals or if we need to perform more or larger clinical trials than planned. We expect to continue to rely on third-party clinical investigators at medical institutions and healthcare facilities to conduct our clinical trials, and, as a result, we may face additional delaying factors outside our control. Significant delays may adversely affect our financial results and the commercial prospects for our product candidates and delay our ability to become profitable.

The results seen in animal testing of our product candidates may not be replicated in humans.

Safety and efficacy seen in preclinical testing of our product candidates in animals may not be seen when our product candidates undergo clinical testing in humans. Preclinical studies and Phase 1 clinical trials are not primarily designed to test the efficacy of a product candidate in humans, but rather to:

- test short-term safety and tolerability;
- study the absorption, distribution, metabolism and elimination of the product candidate;
- study the biochemical and physiological effects of the product candidate and the mechanisms of the drug action and the relationship between drug levels and effect; and
- understand the product candidate s side effects at various doses and schedules.

Success in preclinical studies or completed clinical trials does not ensure that later studies or trials, including continuing non-clinical studies and large-scale clinical trials, will be successful nor does it necessarily predict future results. The rate of failure in drug development is quite high, and many companies in the biotechnology and pharmaceutical industries have suffered significant setbacks in advanced clinical trials, even after promising results in earlier trials. Product candidates may fail to show desired safety and efficacy in larger and more diverse patient populations in later stage clinical trials, despite having progressed through early stage trials. Negative or inconclusive results from any of our ongoing preclinical studies or clinical trials could result in delays, modifications, or abandonment of ongoing or future clinical trials and the termination of our development of a product candidate.

Additionally, even if we are able to successfully complete late stage clinical trials, the regulatory authorities still may not approve our product candidates.

Even if we obtain regulatory approval of any of our product candidates, the approved products may be subject to post-approval studies and will remain subject to ongoing regulatory requirements. If we fail to comply, or if concerns are identified in subsequent studies, our approval could be withdrawn and our product sales could be suspended.

If we are successful at obtaining regulatory approval for MultiStem or any of our other product candidates, regulatory agencies in the United States and other countries where a product will be sold may require extensive additional clinical trials or post-approval clinical studies that are expensive and time consuming to conduct. In particular, therapeutic products administered for the treatment of persistent or chronic conditions, such as obesity, are likely to require extensive follow-up studies and close monitoring of patients after regulatory approval has been granted, for any signs of adverse effects that occur over a long period of time. These studies may be expensive and time consuming to conduct and may reveal side effects or other harmful effects in patients that use our therapeutic products after they are on the market, which may result in the limitation or withdrawal of our drugs from the market. Alternatively, we may not be able to conduct such additional trials, which might force us to abandon our efforts to develop or commercialize certain product candidates. Even if post-approval studies are not requested or required, after our products are approved and on the market, there might be safety issues that emerge over time that require a change in product labeling or that require withdrawal of the product from the market, which would cause our revenue to decline.

Table of Contents

Additionally, any products that we may successfully develop will be subject to ongoing regulatory requirements after they are approved. These requirements will govern the manufacturing, packaging, marketing, distribution, and use of our products. If we fail to comply with such regulatory requirements, approval for our products may be withdrawn, and product sales may be suspended. We may not be able to regain compliance, or we may only be able to regain compliance after a lengthy delay, significant expense, lost revenues and damage to our reputation.

We may rely on third parties to manufacture our MultiStem product candidate.

Our current business strategy relies on third parties to manufacture our MultiStem product candidates in accordance with good manufacturing practices established by the FDA or similar regulations in other countries. These third parties may not deliver sufficient quantities of our MultiStem product, manufacture MultiStem product in accordance with specifications, or comply with applicable government regulations. Additionally, if the manufactured product fails to perform as specified, our business and reputation could be severely impacted.

If and until we are able to manufacture our products ourselves, we expect to enter into additional manufacturing agreements for the production of our products. If any manufacturing agreement is terminated or any third party collaborator experiences a significant problem that could result in a delay or interruption in the supply of product materials to us, there are few contract manufacturers that currently have the capability to produce our MultiStem product on acceptable terms, or on a timely and cost-effective basis. We cannot assure you that manufacturers on whom we will depend will be able to successfully produce our MultiStem product on acceptable terms, or on a timely or cost-effective basis. We cannot assure you that manufacturers will be able to manufacture our products in accordance with our product specifications or will meet regulatory or other requirements. We must have sufficient and acceptable quantities of our product materials to conduct our clinical trials and ultimately to market our products, if and when such products have been approved for marketing. If we are unable to obtain sufficient and acceptable quantities of our product, we may be required to delay the clinical testing and marketing of our products.

If we do not comply with applicable regulatory requirements in the manufacture and distribution of our product candidates, we may incur penalties that may inhibit our ability to commercialize our products and adversely affect our revenue.

Our failure or the failure of our potential collaborators or third party manufacturers to comply with applicable FDA or other regulatory requirements including manufacturing, quality control, labeling, safety surveillance, promoting and reporting may result in criminal prosecution, civil penalties, recall or seizure of our products, total or partial suspension of production or an injunction, as well as other regulatory action against our product candidates or us. Discovery of previously unknown problems with a product, supplier, manufacturer or facility may result in restrictions on the sale of our products, including a withdrawal of such products from the market. The occurrence of any of these events would negatively impact our business and results of operations.

If we are unable to attract and retain key personnel and advisors, it may adversely affect our ability to obtain financing, pursue collaborations or develop our product candidates.

We are highly dependent on our executive officers Gil Van Bokkelen, Ph.D., our Chief Executive Officer, William Lehmann, J.D., M.B.A., President and Chief Operating Officer, John Harrington, Ph.D., Chief Scientific Officer and Executive Vice President, and Laura Campbell, CPA, Senior Vice President of Finance, as well as other personnel.

These individuals are integral to the development and integration of our technologies and to our present and future scientific collaborations, including managing the complex research processes and the product development and potential commercialization processes. Given their leadership, extensive technical, scientific and financial expertise

and management and operational experience, these individuals would be difficult to replace. Consequently, the loss of services of one or more of these named individuals could result in product development delays or the failure of our collaborations with current and future collaborators, which, in turn, may hurt our ability to develop and commercialize products and generate revenues.

Our future success depends on our ability to attract, retain and motivate highly qualified management and scientific, development and commercial personnel and advisors. If we are unable to attract and retain key personnel and advisors, it may negatively affect our ability to successfully develop, test and commercialize our product candidates.

Our ability to compete may decline if we are not successful in adequately protecting our patented and other proprietary technologies.

Our success depends in part on our ability to obtain and maintain intellectual property that protects our technologies and our products. Patent positions may be highly uncertain and may involve complex legal and factual questions, including the ability to establish patentability of compounds and methods for using them for which we seek patent protection. We cannot predict the breadth of claims that will ultimately be allowed in our patent applications, if any, including those we have in-licensed or the extent to which we may enforce these claims against our competitors. We have filed multiple patent applications that seek to protect the composition of matter and method of use related to our programs. In addition, we are prosecuting numerous distinct patent families directed to composition, methods of production, and methods of use of MultiStem and related technologies. If we are unsuccessful in obtaining and maintaining these patents related to products and technologies, we may ultimately be unable to commercialize products that we are developing or may elect to develop in the future.

Table of Contents

The degree of future protection for our proprietary rights is therefore highly uncertain and we cannot assure you that:

- we were the first to file patent applications or to invent the subject matter claimed in patent applications relating to the technologies or product candidates upon which we rely;
- others will not independently develop similar or alternative technologies or duplicate any of our technologies;
- others did not publicly disclose our claimed technology before we conceived the subject matter included in any of our patent applications;
- any of our pending or future patent applications will result in issued patents;
- any of our patent applications will not result in interferences or disputes with third parties regarding priority of invention;
- any patents that may be issued to us, our collaborators or our licensors will provide a basis for commercially viable products or will provide us with any competitive advantages or will not be challenged by third parties;
- we will develop additional proprietary technologies that are patentable;
- the patents of others will not have an adverse effect on our ability to do business; or
- new proprietary technologies from third parties, including existing licensors, will be available for licensing to us on reasonable commercial terms, if at all.

In addition, patent law outside the United States is uncertain and in many countries intellectual property laws are undergoing review and revision. The laws of some countries do not protect intellectual property rights to the same extent as domestic laws. It may be necessary or useful for us to participate in opposition proceedings to determine the validity of our competitors patents or to defend the validity of any of our or our licensor s future patents, which could result in substantial costs and would divert our efforts and attention from other aspects of our business. With respect to certain of our inventions, we decided not to pursue patent protection outside the United States, both because we do not believe it is cost effective and because of confidentiality concerns. Accordingly, our international competitors could develop and receive foreign patent protection for gene sequences and functions for which we are seeking United States patent protection, enabling them to sell products that we developed.

Technologies licensed to us by others, or in-licensed technologies, are important to our business. The scope of our rights under our licenses may be subject to dispute by our licensors or third parties. Our rights to use these technologies and to practice the inventions claimed in the licensed patents are subject to our licensors abiding by the

terms of those licenses and not terminating them. In particular, we depend on certain technologies relating to our MultiStem technology licensed from the University of Minnesota, and the termination of this license could result in our loss of some of the rights that enable us to utilize this technology, and our ability to develop products based on MultiStem could be seriously hampered.

In addition, we may in the future acquire rights to additional technologies by licensing such rights from existing licensors or from third parties. Such in-licenses may be costly. Also, we generally do not control the patent prosecution, maintenance or enforcement of in-licensed technologies. Accordingly, we are unable to exercise the same degree of control over this intellectual property as we do over our internally developed technologies. Moreover, some of our academic institution licensors, collaborators and scientific advisors have rights to publish data and information to which we have rights. If we cannot maintain the confidentiality of our technologies and other confidential information in connection with our collaborations, our ability to protect our proprietary information or obtain patent protection in the future may be impaired, which could have a significant adverse effect on our business, financial condition and results of operations.

We may not have adequate protection for our unpatented proprietary information, which could adversely affect our competitive position.

In addition to patents, we will substantially rely on trade secrets, know-how, continuing technological innovations and licensing opportunities to develop and maintain our competitive position. However, others may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose our technology. To protect our trade secrets, we may enter into confidentiality agreements with employees, consultants and potential collaborators. However, these agreements may not provide meaningful protection of our trade secrets or adequate remedies in the event of unauthorized use or disclosure of such information. Likewise, our trade secrets or know-how may become known through other means or be independently discovered by our competitors. Any of these events could prevent us from developing or commercializing our product candidates.

Table of Contents

We may be sued for product liability, which could adversely affect our business.

Because our business strategy involves the development and sale by either us or our collaborators of commercial products, we may be sued for product liability. We may be held liable if any product we develop and commercialize, or any product our collaborators commercialize that incorporates any of our technology, causes injury or is found otherwise unsuitable during product testing, manufacturing, marketing, sale or consumer use. In addition, the safety studies we must perform and the regulatory approvals required to commercialize our pharmaceutical products, will not protect us from any such liability.

We carry product liability insurance that includes coverage for human clinical trials. Currently, we carry a $5 million per event, $5 million annual aggregate coverage for both our products liability policy and our clinical trials protection. We also intend to seek product liability insurance for any approved products that we may develop or acquire. However, in the event there are product liability claims against us, our insurance may be insufficient to cover the expense of defending against such claims, or may be insufficient to pay or settle such claims. Furthermore, we may be unable to obtain adequate product liability insurance coverage for commercial sales of any of our approved products. If such insurance is insufficient to protect us, our results of operations will suffer. If any product liability claim is made against us, our reputation and future sales will be damaged, even if we have adequate insurance coverage.

Many potential competitors, including those who have greater resources and experience than we do, may develop products or technologies that make ours obsolete or noncompetitive.

We face significant competition with respect to our product candidates. With regard to our efforts to develop MultiStem as a novel stem cell therapy, currently, there are a number of companies that are actively developing stem cell products, which encompass a range of different cell types, including embryonic stem cells, adult-derived stem cells, and processed bone marrow derived cells. Our future success will depend on our ability to maintain a competitive position with respect to technological advances. Technological developments by others may result in our MultiStem product platform and technologies, as well as our pharmaceutical formulations, becoming obsolete.

We are subject to significant competition from pharmaceutical, biotechnology and diagnostic companies, academic and research institutions, and government or other publicly funded agencies that are pursuing or may pursue the development of therapeutic products and technologies that are substantially similar to our proposed therapeutic products and technologies, or that otherwise address the indications we are pursuing. Our most significant competitors include major pharmaceutical companies such as Pfizer, Roche, Johnson & Johnson, Sanofi and GlaxoSmithKline, as well as smaller biotechnology or biopharmaceutical companies such as Celgene, Mesoblast, Aastrom, Stem Cells Inc., Cytori, Pluristem, Arena Pharmaceuticals and Vivus. Most of our current and potential competitors have substantially greater research and development capabilities and financial, scientific, regulatory, manufacturing, marketing, sales, human resources, and experience than we do. Many of our competitors have several therapeutic products that have already been developed, approved and successfully commercialized, or are in the process of obtaining regulatory approval for their therapeutic products in the United States and internationally.

Many of these companies have substantially greater capital resources, research and development resources and experience, manufacturing capabilities, regulatory expertise, sales and marketing resources, established relationships with consumer products companies and production facilities.

Universities and public and private research institutions are also potential competitors. While these organizations primarily have educational objectives, they may develop proprietary technologies related to stem cells or secure patent protection that we may need for the development of our technologies and products. We may attempt to license these proprietary technologies, but these licenses may not be available to us on acceptable terms, if at all. Our competitors,

either alone or with their collaborative partners, may succeed in developing technologies or products that are more effective, safer, more affordable or more easily commercialized than ours, and our competitors may obtain intellectual property protection or commercialize products sooner than we do. Developments by others may render our product candidates or our technologies obsolete.

Our current product discovery and development collaborators are not prohibited from entering into research and development collaboration agreements with third parties in any product field. Our failure to compete effectively would have a significant adverse effect on our business, financial condition and results of operations.

The availability, manner, and amount of reimbursement for our product candidates from government and private payers are uncertain, and our inability to obtain adequate reimbursement for any products could severely limit our product sales.

We expect that many of the patients who seek treatment with any of our products that are approved for marketing will be eligible for Medicare benefits. Other patients may be covered by private health plans. If we are unable to obtain or retain adequate levels of reimbursement from Medicare or from private health plans, our ability to sell our products will be severely limited. The application of existing Medicare regulations and interpretive coverage and payment determinations to newly approved products is uncertain and those regulations and interpretive determinations are subject to change. Medicare may change its reimbursement methodology that reduces the Medicare reimbursement rates for many drugs, which may adversely affect reimbursement for any products we may develop. Medicare regulations and interpretive determinations also may determine who may be reimbursed for certain services, and may limit the pool of patients our product candidates are being developed to serve.

Table of Contents

Federal, state and foreign governments continue to propose legislation designed to contain or reduce health care costs. Legislation and regulations affecting the pricing of products like our potential products may change further or be adopted before any of our potential products are approved for marketing. Cost control initiatives by governments or third-party payers could decrease the price that we receive for any one or all of our potential products or increase patient coinsurance to a level that make our products under development become unaffordable. In addition, government and private health plans persistently challenge the price and cost-effectiveness of therapeutic products. Accordingly, these third parties may ultimately not consider any or all of our products under development to be cost effective, which could result in products not being covered under their health plans or covered only at a lower price. Any of these initiatives or developments could prevent us from successfully marketing and selling any of our products that are approved for commercialization.

Public perception of ethical and social issues surrounding the use of adult-derived stem cell technology may limit or discourage the use of our technologies, which may reduce the demand for our therapeutic products and technologies and reduce our revenues.

Our success will depend in part upon our ability to develop therapeutic products incorporating or discovered through our adult-derived stem cell technology. For social, ethical, or other reasons, governmental authorities in the United States and other countries may call for limits on, or regulation of the use of, adult-derived stem cell technologies. Although we do not use the more controversial stem cells derived from embryos or fetuses, claims that adult-derived stem cell technologies are ineffective, unethical or pose a danger to the environment may influence public attitudes. The subject of stem cell technologies in general has received negative publicity and aroused public debate in the United States and some other countries. Ethical and other concerns about our adult-derived stem cell technology could materially hurt the market acceptance of our therapeutic products and technologies, resulting in diminished sales and use of any products we are able to develop using adult-derived stem cells.

Even if we or our collaborators receive regulatory approval for our products, those products may never be commercially successful.

Even if we develop pharmaceuticals or MultiStem-related products that obtain the necessary regulatory approval, and we have access to the necessary manufacturing, sales, marketing and distribution capabilities that we need, our success depends to a significant degree upon the commercial success of those products. If these products fail to achieve or subsequently maintain market acceptance or commercial viability, our business would be significantly harmed because our future royalty revenue or other revenue would be dependent upon sales of these products. Many factors may affect the market acceptance and commercial success of any potential products that we may discover, including:

- health concerns, whether actual or perceived, or unfavorable publicity regarding our obesity drugs, stem cell products or those of our competitors;
- the timing of market entry as compared to competitive products;
- the rate of adoption of products by our collaborators and other companies in the industry;

any product labeling that may be required by the FDA or other United States or foreign regulatory agencies for our products or competing or comparable products;

convenience and ease of administration;

pricing;

perceived efficacy and side effects;

marketing;

availability of alternative treatments;

levels of reimbursement and insurance coverage; and

activities by our competitors.

Table of Contents

If we are unable to create and maintain sales, marketing and distribution capabilities or enter into agreements with third parties to perform those functions, we will not be able to commercialize our product candidates.

We currently have no sales, marketing or distribution capabilities. Therefore, to commercialize our product candidates, if and when such products have been approved and are ready for marketing, we expect to collaborate with third parties to perform these functions. We will either need to share the value generated from the sale of any products and/or pay a fee to the contract sales organization. If we establish any such relationships, we will be dependent upon the capabilities of our collaborators or contract service providers to effectively market, sell, and distribute our product. If they are ineffective at selling and distributing our product, or if they choose to emphasize other products over ours, we may not achieve the level of product sales revenues that we would like. If conflicts arise, we may not be able to resolve them easily or effectively, and we may suffer financially as a result. If we cannot rely on the sales, marketing and distribution capabilities of our collaborators or of contract service providers, we may be forced to establish our own capabilities. We have no experience in developing, training or managing a sales force and will incur substantial additional expenses if we decide to market any of our future products directly. Developing a marketing and sales force is also time consuming and could delay launch of our future products. In addition, we will compete with many companies that currently have extensive and well-funded marketing and sales operations. Our marketing and sales efforts may be unable to compete successfully against these companies.

We will use hazardous and biological materials in our business. Any claims relating to improper handling, storage or disposal of these materials could be time consuming and costly.

Our products and processes will involve the controlled storage, use and disposal of certain hazardous and biological materials and waste products. We and our suppliers and other collaborators are subject to federal, state and local regulations governing the use, manufacture, storage, handling and disposal of materials and waste products. Even if we and these suppliers and collaborators comply with the standards prescribed by law and regulation, the risk of accidental contamination or injury from hazardous materials cannot be completely eliminated. In the event of an accident, we could be held liable for any damages that result, and any liability could exceed the limits or fall outside the coverage of any insurance we may obtain and exceed our financial resources. We may not be able to maintain insurance on acceptable terms, or at all. We may incur significant costs to comply with current or future environmental laws and regulations.

Disputes concerning the infringement or misappropriation of our proprietary rights or the proprietary rights of others could be time consuming and extremely costly and could delay our research and development efforts.

Our commercial success, if any, will be significantly harmed if we infringe the patent rights of third parties or if we breach any license or other agreements that we entered into with regard to our technology or business.

We are aware of other companies and academic institutions that have been performing research in the areas of adult-derived stem cells. In particular, other companies and academic institutions have announced that they have identified nonembryonic stem cells isolated from bone marrow or other tissues that have the ability to form a range of cell types, or display the property of pluripotency. To the extent any of these companies or academic institutions currently have, or obtain in the future, broad patent claims, such patents could block our ability to use various aspects of our discovery and development process and might prevent us from developing or commercializing newly discovered applications of our MultiStem technology, or otherwise conducting our business. In addition, it is possible that some of the pharmaceutical product candidates we are developing may not be patentable or may be covered by intellectual property of third parties. For example, over the past several years, we have been involved in several proceedings in the United States with a third party focused on a technology developed after the MAPC technology. In an earlier proceeding, our success resulted in the issuance of a patent. However, in a more recent proceeding, an

interference board ruled that this patent and another application of ours should be cancelled, but such ruling may be advanced into an appeal process. Over time, we expect to be involved in similar proceedings with the objective of developing the portfolio to support and protect development and commercialization of our or our licensees cell therapy products.

We are not currently a party to any litigation with regard to our patent or trademark positions. However, the life sciences and other technology industries are characterized by extensive litigation regarding patents and other intellectual property rights. Many life sciences and other technology companies have employed intellectual property litigation as a way to gain a competitive advantage. To the extent we are involved in litigation, interference proceedings, oppositions, reexamination, protest or other potentially adverse intellectual property proceedings as a result of alleged infringement by us of the rights of others or as a result of priority of invention disputes with third parties, we might have to spend significant amounts of money, time and effort defending our position and we may not be successful. In addition, any claims relating to the infringement of third-party proprietary rights or proprietary determinations, even if not meritorious, could result in costly litigation, lengthy governmental proceedings, divert management s attention and resources, or require us to enter into royalty or license agreements that are not advantageous to us. If we do not have the financial resources to support such litigation or appeals, we may forfeit or lose certain commercial rights. Even if we have the financial resources to continue such litigation or appeals, we may lose. In the event that we lose, we may be forced to pay very substantial damages; we may have to obtain costly license rights, which may not be available to us on acceptable terms, if at all; or we may be prohibited from selling products that are found to infringe the patent rights of others.

Should any person have filed patent applications or obtained patents that claim inventions also claimed by us, we may have to participate in an interference proceeding declared by the relevant patent regulatory agency to determine priority of invention and, thus, the right to a patent for these inventions in the United States. Such a proceeding could result in substantial cost to us even if the outcome is favorable. Even if successful on priority grounds, an interference action may result in loss of claims based on patentability grounds raised in the interference action. Litigation, interference proceedings or other proceedings could divert management s time and efforts. Even unsuccessful claims could result in significant legal fees and other expenses, diversion of management s time and disruption in our business. Uncertainties resulting from initiation and continuation of any patent proceeding or related litigation could harm our ability to compete and could have a significant adverse effect on our business, financial condition and results of operations.

Table of Contents

An adverse ruling arising out of any intellectual property dispute, including an adverse decision as to the priority of our inventions, could undercut or invalidate our intellectual property position. An adverse ruling could also subject us to significant liability for damages, including possible treble damages, prevent us from using technologies or developing products, or require us to negotiate licenses to disputed rights from third parties. Although patent and intellectual property disputes in the technology area are often settled through licensing or similar arrangements, costs associated with these arrangements may be substantial and could include license fees and ongoing royalties. Furthermore, necessary licenses may not be available to us on satisfactory terms, if at all. Failure to obtain a license in such a case could have a significant adverse effect on our business, financial condition and results of operations.

To the extent we enter markets outside of the United States, our business will be subject to political, economic, legal and social risks in those markets, which could adversely affect our business.

There are significant regulatory and legal barriers in markets outside the United States that we must overcome to the extent we enter or attempt to enter markets in countries other than the United States. We will be subject to the burden of complying with a wide variety of national and local laws, including multiple and possibly overlapping and conflicting laws. We also may experience difficulties adapting to new cultures, business customs and legal systems. Any sales and operations outside the United States would be subject to political, economic and social uncertainties including, among others:

- changes and limits in import and export controls;
- increases in custom duties and tariffs;
- changes in currency exchange rates;
- economic and political instability;
- changes in government regulations and laws;
- absence in some jurisdictions of effective laws to protect our intellectual property rights; and
- currency transfer and other restrictions and regulations that may limit our ability to sell certain products or repatriate profits to the United States.

Any changes related to these and other factors could adversely affect our business to the extent we enter markets outside the United States.

Foreign governments often impose strict price controls on approved products, which may adversely affect our future profitability in those countries, and the re-importation of drugs to the United States from foreign countries that impose price controls may adversely affect our future profitability.

Frequently foreign governments impose strict price controls on newly approved therapeutic products. If we obtain regulatory approval to sell products in foreign countries, we may be unable to obtain a price that provides an adequate financial return on our investment. Furthermore, legislation in the United States may permit re-importation of drugs from foreign countries into the United States, including re-importation from foreign countries where the drugs are sold at lower prices than in the United States due to foreign government-mandated price controls. Such a practice, especially if it is conducted on a widespread basis, may significantly reduce our potential United States revenues from any drugs that we are able to develop.

If we elect not to sell our products in foreign countries that impose government mandated price controls because we decide it is uneconomical to do so, a foreign government or patent office may attempt to terminate our intellectual property rights in that country, enabling competitors to make and sell our products.

In some cases we may choose not to sell a product in a foreign country because it is uneconomical to do so under a system of government-imposed price controls, or because it could severely limit our profitability in the United States or other markets. In such cases, a foreign government or patent office may terminate any intellectual property rights we may obtain with respect to that product. Such a termination could enable competitors to produce and sell our product in that market. Furthermore, such products may be exported into the United States through legislation that authorizes the importation of drugs from outside the United States. In such an event, we may have to reduce our prices, or we may be unable to compete with low-cost providers of our drugs, and we could be financially harmed as a result.

Table of Contents

We may encounter difficulties managing our growth, which could adversely affect our business.

At various times we have experienced periods of rapid growth in our employee numbers as a result of a dramatic increase in activity in technology programs, genomics programs, collaborative research programs, discovery programs, and scope of operations. At other times, we had to reduce staff in order to bring our expenses in line with our financial resources. Our success will also depend on the ability of our officers and key employees to continue to improve our operational capabilities and our management information and financial control systems, and to expand, train and manage our work force.

If we acquire products, technologies or other businesses, we will incur a variety of costs, may have integration difficulties and may experience numerous other risks that could adversely affect our business.

To remain competitive, we may decide to acquire additional businesses, products and technologies. We currently have no commitments or agreements with respect to, and are not actively seeking, any material acquisitions. We have limited experience in identifying acquisition targets, successfully acquiring them and integrating them into our current infrastructure. We may not be able to successfully integrate any businesses, products, technologies or personnel that we might acquire in the future without a significant expenditure of operating, financial and management resources, if at all. In addition, future acquisitions could require significant capital infusions and could involve many risks, including, but not limited to the following:

- we may have to issue convertible debt or equity securities to complete an acquisition, which would dilute our stockholders and could adversely affect the market price of our common stock;
- an acquisition may negatively impact our results of operations because it may require us to incur large one-time charges to earnings, amortize or write down amounts related to goodwill and other intangible assets, or incur or assume substantial debt or liabilities, or it may cause adverse tax consequences, substantial depreciation or deferred compensation charges;
- we may encounter difficulties in assimilating and integrating the business, technologies, products, personnel or operations of companies that we acquire;
- certain acquisitions may disrupt our relationship with existing collaborators who are competitive to the acquired business;
- acquisitions may require significant capital infusions and the acquired businesses, products or technologies may not generate sufficient revenue to offset acquisition costs;
- an acquisition may disrupt our ongoing business, divert resources, increase our expenses and distract our management;

acquisitions may involve the entry into a geographic or business market in which we have little or no prior experience; and

key personnel of an acquired company may decide not to work for us.

Any of the foregoing risks could have a significant adverse effect on our business, financial condition and results of operations.

Increased information technology security threats and more sophisticated and targeted computer crime could pose a risk to our systems, networks, and products.

Increased global information technology security threats and more sophisticated and targeted computer crime pose a risk to the security of our systems and networks and the confidentiality, availability and integrity of our data and communications. While we attempt to mitigate these risks by employing a number of measures, including employee refreshers, monitoring of our networks and systems, and maintenance of backup and protective systems, our systems, networks and products remain potentially vulnerable to advanced persistent threats. Depending on their nature and scope, such threats could potentially lead to the compromising of confidential information and communications, improper use of our systems and networks, manipulation and destruction of data, defective products, production downtimes and operational disruptions, which in turn could adversely affect our reputation, competitiveness and results of operations.

If we do not continue to meet the listing standards established by The NASDAQ Capital Market, the common stock may not remain listed for trading.

The NASDAQ Capital Market has established certain quantitative criteria and qualitative standards that companies must meet in order to remain listed for trading on these markets. We cannot guarantee that we will be able to maintain all necessary requirements for listing; therefore, we cannot guarantee that our common stock will remain listed for trading on The NASDAQ Capital Market or other similar markets.

Table of Contents

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

Our principal offices are located at 3201 Carnegie Avenue in Cleveland, Ohio. We currently lease approximately 45,000 square feet of space for our corporate offices and laboratories, with state-of-the-art laboratory space. The lease began in 2000 and currently expires in March 2017, and we have the option to renew annually through 2019. Our rent is $267,000 per year and our rental rate has not changed since the lease inception in 2000. Also, we currently lease office and laboratory space for our Belgian subsidiary. The lease currently expires in July 2016, and we have an option to renew annually through July 2022. The annual rent in Belgium is approximately $174,000 and is subject to adjustments based on an inflationary index. Our total rent expense for all properties was $467,000 in 2015. We also have an option for additional space in Belgium that expires in June 2016.

ITEM 3. LEGAL PROCEEDINGS

From time to time, we may become subject to various legal proceedings that are incidental to the ordinary conduct of our business. Currently, there are no such proceedings.

ITEM 3A. EXECUTIVE OFFICERS OF THE REGISTRANT

The information under this Item is furnished pursuant to Instruction 3 to Item 401(b) of Regulation S-K.

There exists no arrangement or understanding between any executive officer and any other person pursuant to which such executive officer was elected. Each executive officer serves until his or her successor is elected and qualified.

The following sets forth the name, age, current position and principal occupation and employment during the past five years of our executive officers.

Gil Van Bokkelen, Ph.D.

Age: 55

Dr. Van Bokkelen has served as our Chief Executive Officer and Chairman since August 2000. Dr. Van Bokkelen co-founded Athersys in 1995 and has served as Chief Executive Officer and Director since the Company s founding. Prior to May 2006, he also served as the Company s President. Dr. Van Bokkelen is also the Chairman of the Board of Governors for the National Center for Regenerative Medicine. He served as the Chairman of the Alliance for Regenerative Medicine from 2010 through 2012, a Washington D.C. based consortium of companies, patient advocacy groups, disease foundations, and clinical and research institutions that are committed to the advancement of the field of regenerative medicine, and served *ex officio* from 2013 to 2014. He has served on a number of other boards, including the Biotechnology Industry Organization s ECS board of directors (from 2001 to 2004, and from 2008 to present). He received his Ph.D. in Genetics from Stanford University School of Medicine, his B.A. in Economics from the University of California at Berkeley, and his B.A. in Molecular Biology from the University of California at Berkeley.

Dr. Van Bokkelen brings to the Board leadership, extensive business, operating, financial and scientific experience, and tremendous knowledge of our Company and the biotechnology industry. Dr. Van Bokkelen also brings his broad strategic vision for our Company to the Board of Directors and his service as the Chairman and Chief Executive Officer of Athersys creates a critical link between management and the Board, enabling the Board to perform its oversight function with the benefit of management s perspectives on the business. In addition, having the Chief Executive Officer, and Dr. Van Bokkelen, in particular, on our Board of Directors provides our Company with ethical, decisive and effective leadership.

John J. Harrington, Ph.D.

Age: 48

Dr. Harrington co-founded Athersys in 1995 and has served as our Chief Scientific Officer, Executive Vice President and Director since our founding. Dr. Harrington led the development of the RAGE® technology, as well as its application for gene discovery, drug discovery and commercial protein production applications. He is a listed inventor on over 20 issued or pending United States patents, has authored numerous scientific publications, and has received numerous awards for his work, including being named one of the top international young scientists by MIT Technology Review in 2002. Dr. Harrington has overseen the therapeutic product development programs at Athersys since their inception, and is also focused on the clinical development and manufacturing of MultiStem®. During his career, he has also held positions at Amgen and Scripps Clinic. He received his B.A. in Biochemistry and Cell Biology from the University of California at San Diego and his Ph.D. in Cancer Biology from Stanford University.

Table of Contents

Dr. Harrington s scientific experience and deep understanding of our Company, combined with his drive for innovation and excellence, position him well to serve on the Board of Directors.

William (BJ) Lehmann, Jr., J.D.

Age: 50

Mr. Lehmann joined Athersys in September 2001 and has served as our President and Chief Operating Officer since June 2006. Prior to that time, Mr. Lehmann was Athersys Executive Vice President of Corporate Development and Finance from August 2002 until June 2006, when he became Athersys President and Chief Operating Officer. From 1994 to 2001, Mr. Lehmann was with McKinsey & Company, Inc., an international management consulting firm, where he worked extensively with new technology and service-based businesses in the firm s Business Building practice. Prior to joining McKinsey, he worked at Wilson, Sonsini, Goodrich & Rosati, a Silicon Valley law firm, and worked with First Chicago Corporation, a financial institution. Mr. Lehmann received his J.D. from Stanford University, his M.B.A. from the University of Chicago, and his B.A. from the University of Notre Dame.

Laura K. Campbell, CPA.

Age: 52

Ms. Campbell joined Athersys in January 1998 and has served as our Senior Vice President of Finance since March 2016. Ms. Campbell served as our Controller from January 1998, followed by Director of Finance and Senior Director of Finance, and then served as our Vice President of Finance from June 2006 until March 2016. Prior to joining Athersys, she was at Ernst & Young LLP, a public accounting firm, for eleven years in the firm s audit practice. During her tenure with Ernst & Young LLP, Ms. Campbell specialized in entrepreneurial services and the biotechnology industry sector and participated in several initial public offerings. Ms. Campbell received her B.S., with distinction, in Business Administration from The Ohio State University and is a certified public accountant.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

Table of Contents

PART II

ITEM 5. MARKET FOR REGISTRANT S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is traded on the NASDAQ Capital Market under the symbol ATHX. Set forth below are the high and low sale prices for our common stock on the NASDAQ Capital Market for the periods indicated.

	High	Low
Year ended December 31, 2015:		
Fourth Quarter	$ 1.19	$ 0.94
Third Quarter	$ 1.57	$ 1.00
Second Quarter	$ 3.23	$ 0.90
First Quarter	$ 3.43	$ 1.54
Year ended December 31, 2014:		
Fourth Quarter	$ 1.74	$ 1.13
Third Quarter	$ 1.99	$ 1.31
Second Quarter	$ 3.50	$ 1.08
First Quarter	$ 4.33	$ 2.51

Holders

As of March 1, 2016, there were approximately 530 holders of record of our common stock. Additionally, shares of common stock are held by financial institutions as nominees for beneficial owners that are deposited into participant accounts at the Depository Trust Company, which are considered to be held of record by Cede & Co. and are included in the holders of record as one stockholder.

Dividend Policy

We would have to rely upon dividends and other payments from our wholly owned subsidiary, ABT Holding Company, to generate the funds necessary to make dividend payments, if any, on our common stock. ABT Holding Company, however, is legally distinct from us and has no obligation to pay amounts to us. The ability of ABT Holding Company to make dividend and other payments to us is subject to, among other things, the availability of funds and applicable state laws. However, there are no restrictions such as government regulations or material contractual arrangements that restrict the ability of ABT Holding Company to make dividend and other payments to us. We did not pay cash dividends on our common stock during the past three years. We do not anticipate that we will pay any dividends on our common stock in the foreseeable future. Rather, we anticipate that we will retain earnings, if any, for use in the development of our business**.**

Table of Contents

ITEM 6. SELECTED FINANCIAL DATA

(in thousands, except per share data)

	Year Ended December 31,				
	2015	**2014**	**2013**	**2012**	**2011**
Consolidated Statement of Operations Data:					
Revenues:					
Contract revenue	$ 10,298	$ 286	$ 755	$ 7,380	$ 9,015
Grant revenue	1,650	1,337	1,683	1,328	1,329
Total revenues	11,948	1,623	2,438	8,708	10,344
Costs and expenses:					
Research and development	21,316	23,366	20,484	19,636	18,930
General and administrative	7,536	6,909	6,065	4,753	4,916
Depreciation	267	360	346	320	278
Loss from operations	(17,171)	(29,012)	(24,457)	(16,001)	(13,780)
Other income (expense):					
Income (expense) from change in fair value of warrants	772	6,591	(6,324)	2,404	812
Other (expense) income, net	(61)	86	38	(1,138)	(778)
Loss before income taxes	**(16,460)**	**(22,335)**	**(30,743)**	**(14,735)**	**(13,746)**
Income tax benefit	38	253			
Net loss	**$ (16,422)**	**$ (22,082)**	**$ (30,743)**	**$ (14,735)**	**$ (13,746)**
Net loss per share, basic	**$ (0.20)**	**$ (0.29)**	**$ (0.53)**	**$ (0.45)**	**$ (0.59)**
Weighted average shares outstanding, basic	82,144	76,955	57,675	32,557	23,239
Net loss per share, diluted	**$ (0.20)**	**$ (0.31)**	**$ (0.53)**	**$ (0.45)**	**$ (0.59)**
Weighted average shares outstanding, diluted	82,851	78,541	57,675	32,557	23,239

	December 31,				
	2015	**2014**	**2013**	**2012**	**2011**
Consolidated Balance Sheet Data:					
Cash and cash equivalents	$ 23,027	$ 26,127	$ 31,948	$ 25,533	$ 8,785
Available-for-sale securities, short-tem					3,999
Working capital, excluding note payable	19,251	22,556	28,487	21,831	7,014
Total assets	25,129	28,718	34,188	27,603	15,701
Warrant liabilities and note payable	839	3,131	9,999	2,878	983
Total stockholders equity	19,724	20,895	19,821	20,247	7,298

Table of Contents

ITEM 7. MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis in conjunction with Item 8. Financial Statements and Supplementary Data included below in this annual report on Form 10-K.

Overview

We are an international biotechnology company that is focused primarily in the field of regenerative medicine. Our MultiStem® cell therapy is currently being evaluated in multiple clinical trials. Our current clinical development programs are focused on treating inflammatory and immune disorders, neurological conditions, cardiovascular disease, and other conditions. We are also applying our pharmaceutical discovery capabilities to identify and develop small molecule compounds with potential applications in indications such as obesity, related metabolic conditions and certain neurological conditions.

Current Programs

By applying our proprietary MultiStem cell therapy product, we established therapeutic product development programs treating neurological conditions, cardiovascular disease, inflammatory and immune disorders, and other conditions. Our programs in the clinical development stage include the following:

Ischemic Stroke: We recently completed our Phase 2 study of MultiStem treatment of subjects suffering a moderate to severe ischemic stroke. In April 2015, we announced the interim results from the clinical study, and in February 2016, we announced the one-year follow-up data from the study. Our double blind, placebo-controlled trial was conducted at leading stroke centers across the United States and UK. In the study, we treated patients one to two days after a stroke. Published studies suggest that approximately 90% of ischemic stroke patients reach the hospital within 24 hours. By contrast, the current standard of care, thrombolytic tPA, must be administered within 3 to 4.5 hours after a stroke, limiting the proportion of patients receiving such treatment to less than 10% of ischemic stroke patients. Patients were assessed at 90 days and one-year in accordance with three well validated and commonly utilized clinical rating scales that are used to assess recovery. These include the Modified Rankin Score, or mRS, (which is a scale from 0 to 6, with a score of 0 reflecting no patient disability and 6 indicating death) assessing overall disability; the NIH Stroke Scale, or NIHSS, which assesses neurological and motor skill deficit (a scale from 0 to 42, with a score of 0 reflecting no disability, and 42 reflecting maximum disability in every category) assessing neurological and motor skill deficits; and the Barthel Index, or BI, (a 100 point index, with a score of 100 representing the best possible score) evaluating the patient s ability to engage in activities of daily living.

The interim results following the 90-day patient evaluation demonstrate favorable tolerability and safety for MultiStem, consistent with prior studies. With respect to the primary and component secondary endpoints for the intent-to-treat population, the MultiStem treatment did not show a meaningful difference at 90 days compared to placebo. However, MultiStem treatment was associated with lower rates of mortality and life threatening adverse events, infections and pulmonary events, and also a reduction in hospitalization. Furthermore, a higher proportion of patients receiving MultiStem achieved an Excellent Outcome, meaning complete or nearly full recovery, which is defined clinically as the patient achieving excellent recovery in each of the three clinical rating scales, as evidenced by patients achieving a score of mRS £1, NIHSS £1 and BI ³95. Achievement of an Excellent Outcome is important because it means that a patient has substantially improved in each of the three clinical rating scales used to assess patient improvement and has regained the ability to live and function independently with a high quality of life. Among all subjects who received MultiStem treatment, 15.4% of patients achieved an Excellent Outcome, compared to 6.6% of patients who received placebo (p=0.10). Importantly, by one year, there was a significant difference between the groups with 23.1% of MultiStem subjects having an Excellent Outcome compared to 8.2% of placebo subjects

(p=0.02)

In addition, analyses show that patients who received MultiStem treatment earlier (24 to 36 hours post-stroke) in the study s treatment window had better recovery in comparison to placebo. For example, at 90 days post-stroke, patients who were treated with MultiStem within 24 to 36 hours of the stroke (i.e. consistent with our original study design) had much better outcomes compared to placebo patients as measured by recovery in each of the key secondary endpoints: mRS £ 2, NIHSS D ³75% and BI ³95. Specifically, 41.9% of the MultiStem-treated patients achieved good or excellent recovery in all three clinical scales, compared to only 24.6% of all patients receiving placebo, a difference of 17.3% (p = 0.08). Additionally, MultiStem subjects had a significantly lower rate of secondary infections than placebo subjects (16.1% v. 47.5%, p<0.01) and of average initial hospital days (6.8 v. 9.8, p=0.02). At one year, such early-treated MultiStem patients had a significantly higher rate of Excellent Outcome than all placebo subjects (29.0% v. 8.2%, p<0.01)

Table of Contents

Furthermore, we evaluated the recovery at 90 days of patients who received treatment with MultiStem within 24 to 36 hours post stroke versus all patients receiving placebo, excluding in both groups patients who received both tPA and mechanical reperfusion (and who were excluded in the original trial design). In this post-hoc analysis, patients in the MultiStem group were more than two times as likely as the placebo group to achieve global recovery based on the Global Test Statistic the primary endpoint (p=0.06), demonstrated substantially better performance in the three component secondary endpoints, and also exhibited accelerated improvement in comparison to patients receiving placebo. These MultiStem-treated patients were also much more likely to achieve recovery in each of the key secondary endpoints, with 44.4% of these patients achieving such recovery on all three scales, compared to just 17.3% for the placebo group, a difference of 27.1% ($p < 0.01$). Additionally, these MultiStem patients achieved significantly higher rates of Excellent Outcome (p=0.03), and patients in the MultiStem group showed improvement on the Cochran-Mantel-Haenszel shift analysis (p=0.03), which compares performance for the patient groups across the spectrum of mRS outcomes. Hospitalization duration was significantly reduced for the MultiStem-treated patients (35% lower than the average for placebo patients) and the average intensive care unit stay was also meaningfully reduced. One-year follow-up data demonstrates that MultiStem-treated subjects, on average, continued to improve relative to placebo with significant differences in Excellent Outcome, the shift analysis and Barthel Index.

Analysis of biomarker data obtained from samples of study subjects indicated that MultiStem treatment reduces post-stroke inflammation compared to placebo, and it appears that this effect is more pronounced for subjects receiving MultiStem earlier than 36 hours post-stroke. This effect is consistent with our hypothesis regarding mechanisms of action and related preclinical data, and with the clinical data suggesting faster recovery for MultiStem-treated patients.

If the MultiStem therapy is proven effective in a registrational study, this would represent a substantial increase in the time window for treatment for ischemic stroke victims, which currently is limited to several hours. Further analyses are being undertaken, and we are preparing for the next stage of clinical development of this program.

Acute Myocardial Infarction: We recently initiated a Phase 2 clinical study in the United States for the administration of MultiStem cell therapy to patients that have suffered an AMI. We previously evaluated the administration of MultiStem to patients that suffered an AMI in a Phase 1 clinical study. The results of this study demonstrated a favorable safety profile and encouraging signs of improvement in heart function among patients that exhibited severely compromised heart function prior to treatment. This data was published in a leading peer reviewed scientific journal, and one-year follow-up data suggested that the benefit observed was sustained over time. We were awarded a grant for up to $2.8 million in funding to support the advancement of this clinical program, and we are currently enrolling patients in our Phase 2 clinical study, evaluating the safety and efficacy of MultiStem treatment in subjects who have a non-ST elevated myocardial infarction. The study is double-blind, sham-controlled and is being conducted at leading cardiovascular centers in the United States.

Acute Respiratory Distress Syndrome: We have also initiated a clinical study for the treatment of ARDS in the UK and in the United States. In 2015, we were awarded a grant from Innovate UK for up to approximately £2.0 million in support of a Phase 2a clinical study evaluating the administration of MultiStem cell therapy to ARDS patients. ARDS is a serious immunological and inflammatory condition characterized by widespread inflammation in the lungs. ARDS can be triggered by pneumonia, sepsis, or other trauma and represents a major cause of morbidity and mortality in the critical care setting. The medical need for a safe and effective treatment of ARDS is significant due to its high mortality rate, and it annually affects approximately 400,000 to 500,000 patients in Europe, the United States and Japan, together. The Phase 2a clinical trial is being conducted with the assistance of Catapult and is currently enrolling patients.

Hematopoietic Stem Cell Transplant / GvHD: We completed a Phase 1 clinical study of the administration of MultiStem cell therapy to patients suffering from leukemia or certain other blood-borne cancers in which patients undergo radiation therapy and then receive a hematopoietic stem cell transplant. Such patients are at significant risk for serious complications, including GvHD, an imbalance of immune system function caused by transplanted immune cells that attack various tissues and organs in the patient. Data from the study demonstrated the safety of MultiStem cell therapy in this indication and suggested that the treatment may have a beneficial effect in reducing the incidence and severity of GvHD, as well as providing other benefits. The MultiStem product has been designated as an orphan drug for the GvHD prophylaxis indication by both the FDA and the EMA, which may provide market exclusivity and other substantial incentives and benefits. We have interacted with both the FDA and the EMA to finalize the design of a single registration study. In February 2015, the MultiStem product was granted Fast Track designation by the FDA for prophylaxis therapy against GvHD following hematopoietic cell transplantation. Subsequently, our registration study design received a positive opinion from the EMA through the Protocol Assessment/Scientific Advice procedure. Furthermore, in December 2015, the proposed registration study received Special Protocol Assessment designation from the FDA, meaning that the trial is adequately designed to support a BLA submission for registration if it is successful. Currently, we are staging this program for future registration-directed development dependent on the achievement of certain business development and financial objectives.

Table of Contents

Inflammatory Bowel Disease: MultiStem therapy has been evaluated in a Phase 2 clinical study involving administration of MultiStem to patients suffering from UC, the most common form of IBD, which was conducted by a collaborative partner, Pfizer. Overall, the study results released in 2014 were disappointing, in that a single administration of MultiStem to a patient population with longstanding, chronic advanced disease failed to show a meaningful clinical effect at the eight-week evaluation period. Despite not showing a significant improvement compared to placebo in the primary efficacy endpoints, the MultiStem therapy demonstrated favorable safety and tolerability in the eight weeks following treatment. Furthermore, at four weeks, patients getting MultiStem treatment had a significantly higher proportion of rectal bleeding responders than placebo patients, suggesting the possibility of a transient effect from the single MultiStem dose. Subsequent analyses suggest that MultiStem treatment has an impact on relevant biomarkers shortly after treatment compared to placebo, suggesting the possibility of improved benefit from a different treatment regime. Taking these results into account and following an internal portfolio review of its IBD programs, Pfizer determined that it would not invest further in this program as required by the collaboration and notified us of its decision to terminate the license agreement effective in the third quarter of 2015. In connection with the termination, all rights to the program reverted to us, and we are free to use preclinical and clinical data for development in this area and in other areas, including immunology and inflammatory conditions.

We are also conducting or supporting clinical activity in other areas, such as solid organ transplant, which is an investigator-initiated study being conducted at a leading transplant center in Europe. We are also engaged in the preparation stages for translational and clinical studies in other targeted areas.

In addition to our current and anticipated clinical development activities, we are engaged in preclinical development and evaluation of MultiStem therapy in other neurological, cardiovascular and inflammatory and immune disease areas, as well as certain other indications. We conduct such work both through our own internal research efforts and through a broad global network of collaborators. We are routinely in discussions with third parties about collaborating in the development of MultiStem therapy for various programs and may enter into one or more business partnerships to advance these programs over time.

In January 2016, we entered into a license agreement with Healios to develop and commercialize MultiStem cell therapy for ischemic stroke in Japan, and to provide Healios with access to our proprietary MAPC, for use in Healios proprietary organ bud program, initially for transplantation to treat liver disease or dysfunction. Under the agreement, Healios also obtained a right to expand the scope of the collaboration to include the exclusive rights to develop and commercialize MultiStem for the treatment of two additional indications in Japan, which include ARDS and another indication in the orthopedic area, as well as all indications for the organ bud program. Healios will develop and commercialize the MultiStem product in Japan, and we will provide the manufactured product to Healios.

We had entered into a similar arrangement with Chugai early in 2015 for the development and commercialization of MultiStem therapy for stroke in Japan, but we terminated the license agreement in October 2015 when the parties were unable to reach an agreement on a potential modification of the financial terms of the agreement and on the development strategy in Japan as proposed by Chugai following the initial results from our Phase 2 clinical study.

We also have a collaboration with RTI for the development of products for certain orthopedic applications using our stem cell technologies in the bone graft substitutes market, we have been earning royalty revenue from product sales since 2014 and may receive other payments upon the successful achievement of certain commercial milestones.

Financial

In connection with our January 2016 license agreement with Healios, we received an up-front cash payment of $15 million from Healios, and the collaboration can be expanded at Healios election. If Healios expands the collaboration,

we will be entitled to receive an additional cash payment of $10 million. Healios may exercise its option to expand the collaboration by the date that is the later of (i) December 31, 2016 and (ii) the receipt of the initial results from Athersys ongoing ARDS clinical trial.

For the ischemic stroke indication, we may also receive additional success-based development and regulatory approval milestones from Healios aggregating up to $30 million, as well as potential sales milestones of up to $185 million. We will also receive tiered royalties on product sales, starting in the low double digits and increasing incrementally into the high teens depending on net sales levels. Additionally, we will receive payments for product supplied to Healios under a manufacturing supply agreement.

Table of Contents

If Healios exercises the option to expand to collaboration, we would be entitled to receive royalties from product sales and success-based development, regulatory approval and sales milestones, and payments for product supply for the additional indications, as well as a fractional royalty percentage on net sales of the organ bud products.

In October 2015, we and Chugai agreed to terminate our 2015 license agreement as a result of an inability to reach an agreement on the modification of the financial terms of the agreement and on the development strategy of our MultiStem cell therapy for the treatment of ischemic stroke in Japan. We retained the $10 million up-front cash payment from Chugai that we received in 2015, which was recognized in full in October 2015 in connection with the termination of the collaboration. We regained all rights for developing its stem cell technologies and products for ischemic stroke in Japan, and Chugai no longer has any license rights or options with respect to our technologies and products. Neither we nor Chugai have any further obligations to each other.

We have in place an equity purchase agreement with Aspire Capital, which provides us the ability to sell shares to Aspire Capital from time-to-time, as appropriate. Under our facility that was renewed in December 2015, we can elect to sell to Aspire Capital up to an additional $30 million of shares of common stock under the agreement. During the quarter ended December 31, 2015, no shares were sold under the Aspire equity purchase agreement, and during the year ended December 31, 2015, we sold 4,023,719 shares to Aspire Capital at an average price of $2.58.

During the year ended December 31, 2015, we received proceeds of approximately $976,000 from the exercise of warrants, resulting in the issuance of 966,184 shares of common stock in the aggregate.

In February 2015, we were awarded a grant from Innovate UK in support or a Phase 2a clinical study evaluating the administration of MultiStem cell therapy to ARDS patients. The grant is expected to provide up to approximately £2.0 million in support over the course of the study, which will be conducted at leading clinical sites in the UK in conjunction with Catapult, a not-for-profit center focused on the development of the UK cell therapy industry.

Results of Operations

Since our inception, our revenues have consisted of license fees, contract revenues and milestone payments from our collaborators, and grant proceeds primarily from federal, state and foundation grants. We have derived no revenue from the commercial sale of therapeutic products to date, but we receive royalties on commercial sales by a licensee of products using our technologies. Research and development expenses consist primarily of external clinical and preclinical study fees, manufacturing costs, salaries and related personnel costs, legal expenses resulting from intellectual property prosecution processes, facility costs, and laboratory supply and reagent costs. We expense research and development costs as they are incurred. We expect to continue to make significant investments in research and development to enhance our technologies, advance clinical trials of our product candidates, expand our regulatory affairs and product development capabilities, conduct preclinical studies of our product and manufacture our product candidates. General and administrative expenses consist primarily of salaries and related personnel costs, professional fees and other corporate expenses. We expect to continue to incur substantial losses through at least the next several years.

Year Ended December 31, 2015 Compared to Year Ended December 31, 2014

Revenues. Revenues increased to $11.9 million for the year ended December 31, 2015 from $1.6 million in 2014, reflecting the $10.0 million payment received from the Chugai collaboration that was terminated in October 2015. We expect our future contract revenues to be comprised primarily of revenues associated with our Healios collaboration, royalty payments and potential commercial milestone payments from RTI and potential proceeds from any new collaborations. Grant revenue increased $0.3 million for the year ended December 31, 2015 compared to the year

ended December 31, 2014, primarily due to completed grants and the timing of grant-funded projects. Our grant revenues fluctuate from period-to-period based on new grant awards, completed grants and the timing of grant-related activities.

Research and Development Expenses. Research and development expenses decreased to $21.3 million for the year ended December 31, 2015 from $23.4 million for the year ended December 31, 2014. The decrease of $2.1 million related primarily to a decrease in clinical and preclinical development costs of $1.5 million, a decrease in sponsored research costs of $0.5 million, a decrease in legal and professional fees of $0.2 million, and a decrease in travel costs of $0.2 million, with such decreases partially offset by an increase of $0.2 million in license fees and a $0.1 million increase in personnel costs for the year ended December 31, 2015 from 2014. Our clinical and preclinical development costs primarily reflect costs associated with our MultiStem clinical trials and include contract research organization costs, clinical manufacturing costs, manufacturing process development costs, and clinical and regulatory consulting costs. The decrease in our preclinical and clinical development costs is primarily due to decreased manufacturing costs, clinical study costs and regulatory costs. Sponsored research costs decreased primarily due to the timing of costs incurred by certain academic research institutions under our grant-funded programs. The decrease in legal fees was a result of decreased patent expenses associated with patent prosecution, national filings, and interparty proceedings and related filings. Based on our planned clinical development and manufacturing process development activities, we expect our 2016 annual research and development expenses to be similar to 2015, and such costs will vary over time based on clinical manufacturing campaigns, the timing and stage of clinical trials underway, and manufacturing process development activities. Other than external expenses for our clinical and preclinical programs, we do not track our research expenses by project; rather, we track such expenses by the type of cost incurred.

Table of Contents

General and Administrative Expenses. General and administrative expenses increased to $7.5 million in 2015 from $6.9 million in 2014. The $0.6 million increase in 2015 compared to 2014 was due primarily to an increase of $0.2 million in stock-based compensation, an increase in professional fees of $0.2 million and an increase of $0.2 million in consulting costs. Stock-based compensation increased in 2015 compared to 2014 from the ratable expense of vesting awards issued in connection with our annual equity incentive program that began to include officers in 2013. The increase in professional and consulting fees costs related to our business development activities. We expect our general and administrative expenses to continue at similar levels in 2016.

Depreciation. Depreciation expense decreased to $0.3 million in 2015 from $0.4 million in 2014 due to fewer equipment purchases.

Income (Expense) from Change in Fair Value of Warrants. Income of $0.8 million and $6.6 million was recognized during the years ended December 31, 2015 and 2014, respectively, for the market value change in our warrant liabilities. The fluctuation is related to the impact of new warrant issuances and changes in warrant value, primarily affected by our stock price and the remaining lives of the issued warrants.

Other Income (Expense), net. Other income (expense), net, for the years ended December 31, 2015 and 2014 remained relatively consistent and was comprised of interest income and expense, and foreign currency gains and losses.

Income Tax Benefit. The income tax benefit in 2015 and 2014 represents refundable foreign tax credits.

Year Ended December 31, 2014 Compared to Year Ended December 31, 2013

Revenues. Revenues decreased to $1.6 million for the year ended December 31, 2014 from $2.4 million in 2013, reflecting a $0.3 million decrease in our Pfizer contract revenues and a $0.4 million decrease in milestone payments from Bristol-Myers Squibb, partially offset by an increase of $0.2 million in royalty payments from RTI. Grant revenue decreased $0.3 million for the year ended December 31, 2014 compared to the year ended December 31, 2013, primarily due to completed grants and the timing of grant-funded projects.

Research and Development Expenses. Research and development expenses increased to $23.4 million for the year ended December 31, 2014 from $20.5 million for the year ended December 31, 2013. The increase of $2.9 million related primarily to an increase in personnel costs of $0.9 million, an increase in research supplies of $0.6 million, an increase in clinical and preclinical development costs of $0.5 million, an increase in stock-based compensation of $0.5 million, an increase in legal and professional fees of $0.1 million, and an increase in other research and development costs of $0.3 million for the year ended December 31, 2014 from 2013. Personnel costs rose due to selective personnel additions and annual compensation increases. The increase in research supplies was due to an increase in internal process development activities. Our clinical and preclinical development costs primarily reflect costs associated with our MultiStem clinical trials and include contract research organization costs, clinical manufacturing costs, manufacturing process development costs and clinical consulting costs. The increase in our clinical and preclinical costs is primarily due to increased clinical study costs. Stock-based compensation increased primarily due to additional months of ratable expense from restricted stock units granted in June 2013, and the implementation of an annual equity incentive program in June 2013. The increase in legal fees resulted from increased patent expenses associated with patent prosecution, national filings, and interparty proceedings and related filings. Other than external expenses for our clinical and preclinical programs, we do not track our research expenses by project; rather, we track such expenses by the type of cost incurred.

General and Administrative Expenses. General and administrative expenses increased to $6.9 million in 2014 from $6.1 million in 2013. The $0.8 million increase in 2014 compared to 2013 was due primarily to an increase of $0.6

million in stock-based compensation and an increase in personnel costs of $0.3 million. Stock-based compensation increased in 2014 compared to 2013 primarily due to additional months of ratable expense from restricted stock units granted in June 2013, and the implementation of an annual equity incentive program in June 2013. The increase in personnel costs related to the addition of personnel over the past twelve months and annual compensation increases.

Depreciation. Depreciation expense increased to $0.4 million in 2014 from $0.3 million in 2013 due to depreciation on new capital purchases.

Table of Contents

Income (Expense) from Change in Fair Value of Warrants. Income of $6.6 million and expense of $6.3 million was recognized during the years ended December 31, 2014 and 2013, respectively, for the market value change in our warrant liabilities. The fluctuation is related to the impact of new warrant issuances and changes in warrant value, primarily affected by our stock price and the remaining lives of the issued warrants.

Other (Expense) Income, net. Other (expense) income, net, for the years ended December 31, 2014 and 2013 remained relatively consistent and was comprised of interest income and expense, and foreign currency gains and losses.

Income Tax Benefit. The income tax benefit in 2014 represents refundable foreign tax credits.

Liquidity and Capital Resources

Our sources of liquidity include our cash balances and any available-for-sale securities. At December 31, 2015, we had $23.0 million in cash and cash equivalents. We have primarily financed our operations through business collaborations, grant funding and equity financings. We conduct all of our operations through our subsidiary, ABT Holding Company. Consequently, our ability to fund our operations depends on ABT Holding Company s financial condition and its ability to make dividend payments or other cash distributions to us. There are no restrictions such as government regulations or material contractual arrangements that restrict the ability of ABT Holding Company to make dividend and other payments to us.

We incurred losses since inception of operations in 1995 and had an accumulated deficit of $303 million at December 31, 2015. Our losses have resulted principally from costs incurred in research and development, clinical and preclinical product development, acquisition and licensing costs, and general and administrative costs associated with our operations. We used the financing proceeds from equity and debt offerings and other sources of capital to develop our technologies, to discover and develop therapeutic product candidates, develop business collaborations and to acquire certain technologies and assets. During the years ended December 31, 2014 and 2013, excluding issuances pursuant to our equity purchase arrangement with Aspire Capital described below, we completed registered direct, public and private equity offerings generating net proceeds of approximately $18.8 million and $18.4 million, respectively.

In January 2014, we completed a registered direct offering generating net proceeds of approximately $18.8 million through the issuance of 5,000,000 shares of common stock and warrants to purchase 1,500,000 shares of common stock with an exercise price of $4.50 per share that expire on July 15, 2016. The securities were sold in multiples of a fixed combination of one share of common stock and a warrant to purchase 0.30 shares of common stock at an offering price of $4.10 per fixed combination.

In December 2013, we completed a registered direct offering generating net proceeds of approximately $18.4 million through the issuance of 10,000,000 shares of common stock and warrants to purchase 3,500,000 shares of common stock with an exercise price of $2.50 per share and an expiration date of March 31, 2015. The securities were sold in multiples of a fixed combination of one share of common stock and a warrant to purchase 0.35 shares of common stock at an offering price of $2.00 per fixed combination. In January 2015, we amended all of the 2013 warrants to purchase 3,500,000 shares of common stock to increase the exercise price to $2.75 per share and extend the expiration date to May 31, 2015. The warrants expired unexercised in May 2015.

In November 2011, we entered into an equity purchase agreement with Aspire Capital, which provided that Aspire Capital was committed to purchase up to an aggregate of $20.0 million of shares of our common stock over a two-year term, subject to our election to sell any such shares. As part of the agreement, Aspire Capital made an initial investment of $1.0 million in us and received 266,667 additional shares as compensation for its commitment. As of

September 2013, we had sold all the remaining shares that were available under the equity facility, which was due to expire. In October 2013, we terminated the expiring 2011 equity purchase agreement and entered into a new 2013 equity purchase agreement with Aspire Capital to purchase up to an aggregate of $25.0 million of shares of our common stock over a new two-year period. The terms of the 2013 equity facility were similar to the previous arrangement, and we issued 333,333 shares of our common stock to Aspire Capital as a commitment fee in October 2013 and filed a registration statement for the resale of 10,000,000 shares of common stock in connection with the new equity facility.

During the years ended December 31, 2015 and 2014, we sold 4,023,719 and 250,000 shares, respectively, to Aspire Capital at average prices of $2.58 and $3.78 per share, respectively. In December 2015, we entered into a new 2015 equity purchase agreement with Aspire Capital to purchase up to an aggregate of $30.0 million of shares of our common stock over a new three-year period. The terms of the 2015 equity facility are similar to the previous arrangements, and we issued 250,000 shares of our common stock to Aspire Capital as a commitment fee in December 2015 and filed a registration statement for the resale of 16,600,000 shares of common stock in connection with the new equity facility. As of December 31, 2015, we received proceeds of approximately $24.8 million in aggregate under the Aspire equity purchase agreements since its inception in 2011.

Table of Contents

Investors in certain of our equity offerings have received warrants to purchase shares of our common stock, of which warrants to purchase an aggregate of 4.9 million shares remain outstanding at December 31, 2015 with a weighted average exercise price of $2.77 per share. The exercise of warrants could provide us with cash proceeds. During the year ended December 31, 2015, we received proceeds of approximately $1.0 million from the exercise of warrants, resulting in the issuance of 966,184 shares of common stock in the aggregate. During the year ended December 31, 2014, we received proceeds of approximately $938,000 from the exercise of warrants, resulting in the issuance of 928,924 shares of common stock in the aggregate. During the year ended December 31, 2013, we received proceeds of approximately $402,000 from the exercise of warrants, resulting in the issuance of 397,826 shares of common stock in the aggregate.

In connection with our January 2016 license agreement with Healios, we received an up-front cash payment of $15 million from Healios, and the collaboration can be expanded at Healios election. If Healios expands the collaboration, we will be entitled to receive an additional cash payment of $10 million. Healios may exercise its option to expand the collaboration by the date that is the later of (i) December 31, 2016 and (ii) the receipt of the initial results from Athersys ongoing ARDS clinical trial. For the ischemic stroke indication, we may also receive additional success-based development and regulatory approval milestones from Healios aggregating up to $30 million, as well as potential sales milestones of up to $185 million. We will also receive tiered royalties on product sales, starting in the low double digits and increasing incrementally into the high teens depending on net sales levels. Additionally, we will receive payments for product supplied to Healios under a manufacturing supply agreement.

If Healios exercises the option to expand to collaboration, we would be entitled to receive royalties from product sales and success-based development, regulatory approval and sales milestones, and payments for product supply for the additional indications, as well as a fractional royalty percentage on net sales of the organ bud products.

In connection with our license agreement with Chugai that was terminated in October 2015, we received an up-front cash payment of $10 million in 2015 and were entitled to receive a potential near-term payment of $7 million tied to the results of our ongoing Phase 2 clinical trial in ischemic stroke. We terminated the license agreement when the parties were unable to reach an agreement on the potential modification of the financial terms of the agreement and on the development strategy in Japan. We retained the $10 million up-front cash payment from Chugai and regained all rights for developing our stem cell technologies and products for ischemic stroke in Japan, and Chugai no longer has any license rights or options with respect to our technologies and products. Neither we nor Chugai have any further obligations to each other.

Following an internal portfolio review of its IBD programs, Pfizer determined that it would not invest further in our IBD program as required by the collaboration, and, therefore, the license agreement was terminated in July 2015. In connection with the termination, all rights to the program reverted to us, and we are free to use preclinical and clinical data for development in this area and in other areas, including immunology and inflammatory conditions.

Under the terms of our RTI agreement, we are eligible to receive cash payments aggregating up to $35.5 million upon the successful achievement of certain commercial milestones, though there can be no assurance that such milestones will be achieved, and no milestone payments have been received as of December 31, 2015. In addition, we are entitled to receive tiered royalties on worldwide commercial sales of implants using our technologies based on a royalty rate starting in the mid-single digits and increasing into the mid-teens, and we began receiving royalty payments in 2014.

We remain entitled to receive license fees for targets that were delivered to Bristol-Myers Squibb under our completed 2001 collaboration, as well as milestone payments and royalties on compounds developed by Bristol-Myers Squibb using our technology, though there can be no assurance that we will achieve any such milestones or royalties. While Bristol-Myers Squibb still has a few active programs using our cell lines, we expect this collaboration and the

associated revenues to phase out over time.

We are obligated to pay the University of Minnesota a sublicense fee or a royalty based on worldwide commercial sales of licensed products if covered by a valid licensed patent. The low single-digit royalty rate may be reduced if third-party payments for intellectual property rights are necessary or commercially desirable to permit the manufacture or sale of the product. As of December 31, 2015, we have paid no royalties to the University of Minnesota and have paid sublicense fees from time-to-time in connection with our collaborations.

In 2012, we entered into an arrangement with the Global Cardiovascular Innovation Center and the Cleveland Clinic Foundation in which we were entitled to proceeds of up to $500,000 in the form of a forgivable loan to fund certain preclinical work. Interest on the loan accrued at a fixed rate of 4.25% per annum and was added to the outstanding principal, and the loan carried an expiration date of March 31, 2016. In February 2016, the loan and accrued interest, which amounted to approximately $190,000 at December 31, 2015, was forgiven according to its terms based on the achievement of certain milestones.

Table of Contents

In 2015, we were awarded a grant from Innovate UK in support of a Phase 2a clinical study evaluating the administration of MultiStem cell therapy to ARDS patients. The grant is expected to provide up to approximately £2.0 million (approximately $2.8 million based on the current exchange rate) in support over the course of the study, which will be conducted at leading clinical sites in the UK in conjunction with Catapult, a not-for-profit center focused on the development of the UK cell therapy industry.

We will require substantial additional funding in order to continue our research and product development programs, including preclinical evaluation and clinical trials of our product candidates and manufacturing process development. At December 31, 2015, we had available cash and cash equivalents of $23.0 million, and we intend to meet our short-term liquidity needs with available cash. Over the longer term, we will make use of available cash, but will have to continue to generate additional funding to meet our needs, through business development, achievement of milestones under our collaborations, and grant-funding opportunities. Additionally, we may raise capital from time to time through our equity purchase agreement with Aspire Capital, subject to its volume and price limitations. We also manage our cash by deferring certain discretionary costs and staging certain development costs to extend our operational runway, as needed. Over time, we may consider the sale of additional equity securities, or possibly borrowing from financing institutions.

Our capital requirements over time depend on a number of factors, including progress in our clinical development programs, our clinical and preclinical pipeline of additional opportunities and their stage of development, additional external costs such as payments to contract research organizations and contract manufacturing organizations, additional personnel costs and the costs in filing and prosecuting patent applications and enforcing patent claims. The availability of funds impacts our ability to advance multiple clinical programs concurrently, and any shortfall in funding could result in our having to delay or curtail research and development efforts. Further, these requirements may change at any time due to technological advances, business development activity or competition from other companies. We cannot assure you that adequate funding will be available to us or, if available, that it will be available on acceptable terms.

We expect to continue to incur substantial losses through at least the next several years and may incur losses in subsequent periods. The amount and timing of our future losses are highly uncertain. Our ability to achieve and thereafter sustain profitability will be dependent upon, among other things, successfully developing, commercializing and obtaining regulatory approval or clearances for our technologies and products resulting from these technologies.

Cash Flow Analysis

Net cash used in operating activities was $13.8 million, $25.8 million and $22.8 million in 2015, 2014 and 2013, respectively, and represented the use of cash to fund operations, clinical trials, and preclinical and process development activities. We expect that net cash used in operating activities will be similar in 2016 compared to 2015 in connection, and may fluctuate significantly on a quarter-to-quarter basis, as it has over the past several years, primarily due to the receipt of collaboration fees and payment of specific clinical trial costs, such as clinical manufacturing campaigns, contract research organization costs, and manufacturing process development projects.

Net cash used in investing activities was $0.1 million, $0.3 million and $0.4 million in 2015, 2014 and 2013, respectively, related to the purchase of equipment. We expect that our capital equipment expenditures will increase in 2016 compared to 2015 as a result of equipment required for our manufacturing process development activities.

Financing activities provided cash of $10.8 million in 2015 related to the exercise of common stock warrants and equity sales to Aspire Capital, net of treasury stock purchases. Financing activities provided cash of $20.3 million in 2014 related to the January 2014 registered direct offering, the exercise of common stock warrants, and equity sales to

Aspire Capital, net of treasury stock purchases. Financing activities provided cash of $29.6 million in 2013 related to the December 2013 registered direct offering, the exercise of common stock warrants, and equity sales to Aspire Capital, net of treasury stock purchases.

Our contractual payment obligations as of December 31, 2015 are as follows:

Payment due by Period

Contractual Obligations	**Total**	**Less than 1 Year**	**1 3 Years**	**3 5 Years**	**More than 5 Years**
Operating leases for facilities and equipment leases	$ 448,000	$ 373,000	$ 75,000	$	$
Reserved manufacturing space	1,560,000	1,560,000			
	$ 2,008,000	$ 1,933,000	$ 75,000	$	$

Table of Contents

We lease office and laboratory space under operating leases. Our lease for our corporate offices and laboratories began in 2000 and currently expires in March 2017, and we have the option to renew annually through 2019. Our rent is $267,000 per year and our rental rate has not changed since the lease inception in 2000. Also, we lease office and laboratory space for our Belgian subsidiary that currently expires in July 2016 and includes options to renew annually through July 2022, and the annual rent of approximately $174,000 is subject to adjustments based on an inflationary index. We also have an option for additional space in Belgium that expires in June 2016. Our total rent expense for all properties was $467,000 in 2015.

We have reserved space and personnel at a contract manufacturer to manufacture our cell therapy product for clinical development. If we terminate the agreement early, which we do not anticipate, we would have an obligation of up to $1,560,000 if the contract manufacturer is unable to utilize the vacated capacity during the six months following our termination notice. The amount may be reduced if the contract manufacturer is able to redeploy the capacity, for which it is required to use commercially reasonable efforts to do, and we believe would be likely based on the current demand for such facilities and manufacturing capacity.

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements.

Critical Accounting Policies and Management Estimates

The SEC defines critical accounting policies as those that are, in management s view, important to the portrayal of our financial condition and results of operation and demanding of management s judgment. Our discussion and analysis of financial condition and results of operations are based on our consolidated financial statements, which have been prepared in accordance with United States generally accepted accounting principles. The preparation of these financial statements requires us to make estimates on experience and on various assumptions that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from those estimates.

A discussion of the material implications of uncertainties associated with the methods, assumptions and estimates underlying our critical accounting polices is as follows:

Revenue Recognition

Our license and collaboration agreements may contain multiple elements, including license and technology access fees, research and development funding, manufacturing revenue, cost-sharing, milestones and royalties. The deliverables under such an arrangement are evaluated under Accounting Standards Codification, or ASC, 605-25, *Multiple-Element Arrangements.* Each required deliverable is evaluated to determine whether it qualifies as a separate unit of accounting based on whether the deliverable has stand alone value to the customer. The arrangement s consideration that is fixed or determinable is then allocated to each separate unit of accounting based on the relative selling price of each deliverable. In general, the consideration allocated to each unit of accounting is recognized as the related goods or services are delivered, limited to the consideration that is not contingent upon future deliverables.

As of December 31, 2015, we have recognized the full amount of license fees under our collaboration agreements as contract revenue under ASC 605-25, since the performance periods for our multiple element arrangements have concluded. This excludes the Healios collaboration that was entered into in 2016.

For agreements entered into prior to January 1, 2011 and not materially modified thereafter (such as Pfizer and Bristol-Myers Squibb contract revenue), we continue to apply our prior accounting policy with respect to such arrangements. Under this policy, the deliverables under the arrangement are evaluated to assess whether they have standalone value and objective and reliable evidence of fair value, and if so, are accounted for as a single unit. We then recognize revenue for each unit based on the culmination of the earnings process under ASC 605-S25, issued as Staff Accounting Bulletin (SAB) Topic 13, and our estimated performance period for the single units of accounting based on the specific terms of each collaborative agreement. The performance period for such agreements has concluded.

We recognize revenue from at-risk, performance milestones that are substantive in the period that the milestone is achieved, as defined in the respective contracts.

We entered into collaboration agreements with Healios, Chugai, Pfizer and RTI that contain(ed) multiple elements and deliverables. For a description of the collaboration agreement and the determination of contract revenues, see Note E to our audited consolidated financial statements. In 2016, we will review our license agreement with Healios, which we believe has multiple elements and deliverables under ASC 605-25.

Table of Contents

Also included in contract revenue are license fees received from Bristol-Myers Squibb, which are specifically set forth in the license and collaboration agreement as amounts due to us based on our completion of certain tasks (e.g., delivery and acceptance of a cell line) and development milestones (e.g., clinical trial phases), and as such, are not based on estimates that are susceptible to change. Such amounts are invoiced and recorded as revenue as tasks are completed and as milestones are achieved.

Similarly, grant revenue consists of funding under cost reimbursement programs primarily from federal and state sources for qualified research and development activities performed by us, and as such, are not based on estimates that are susceptible to change. Such amounts are invoiced (unless prepaid) and recorded as revenue as tasks are completed.

We recognize revenue from royalties relating to the sale by a licensee of the licensed product. Royalty revenue is recognized on an accrual basis in accordance with the substance of the relevant agreement and based on the receipt from the licensee of the relevant information to enable calculation of the royalty due.

Collaborative Arrangements

Collaborative arrangements that involve cost or future profit sharing are reviewed to determine the nature of the arrangement and the nature of the collaborative parties businesses. The arrangements are also reviewed to determine if one party has sole or primary responsibility for an activity, or whether the parties have shared responsibility for the activity. If responsibility for an activity is shared and there is no principal party, then the related costs of that activity are recognized by us on a net basis in the statement of operations (e.g., total cost less reimbursement from collaborator). If we are deemed to be the principal party for an activity, then the costs and revenues associated with that activity are recognized on a gross basis in the statement of operations. The accounting may be susceptible to change if the nature of a collaborator s business changes. Currently, we have no collaborations that are accounted for on a net basis. In 2016, we will review our license agreement with Healios for potential accounting as a collaborative arrangement.

Clinical Trial Costs

Clinical trial costs are accrued based on work performed by outside contractors that manage and perform the trials, and that manufacture clinical product. We obtain initial estimates of total costs based on enrollment of subjects, project management estimates, manufacturing estimates and other activities. Actual costs are typically charged to us and recognized as the tasks are completed by the contractor, and if we are invoiced based on progress payments as opposed to actual costs, we develop estimates of work completed to date. Accrued clinical trial costs may be subject to revisions as clinical trials progress, and any revisions are recorded in the period in which the facts that give rise to the revisions become known.

Stock-Based Compensation

We recognize stock-based compensation expense on the straight-line method and use a Black-Scholes option-pricing model to estimate the grant-date fair value of share-based awards. The expected term of options granted represent the period of time that option grants are expected to be outstanding. We use the simplified method to calculate the expected life of option grants given our limited history and determine volatility by using our historical stock volatility. Estimates of fair value are not intended to predict actual future events or the value ultimately realized by persons who receive equity awards.

Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates and if our expectations on forfeitures changes. If actual forfeitures vary from the estimate, we

will recognize the difference in compensation expense in the period the actual forfeitures occur or when options vest.

All of the aforementioned estimates and assumptions are evaluated on a quarterly basis and may change as facts and circumstances warrant. Changes in these assumptions can materially affect the estimate of the fair value of our share-based payments and the related amount recognized in our financial statements.

Table of Contents

Fair Value of Warrant Liabilities

The estimated fair value of warrants accounted for as liabilities, representing a level 3 fair value measure, is determined on the issuance date and subsequently marked to market at each financial reporting date. The fair value of the warrants is estimated using the expected volatility based on our historical volatility for warrants issued after January 1, 2013, or for warrants issued prior to 2013, using the historical volatilities of comparable companies from a representative peer group selected based on industry and market capitalization, each of which using a Black-Scholes pricing model. The fair value of certain warrants is determined using probability weighted-average assumptions that give consideration to contractual terms in the warrants, such as an exercise price repricing feature, as defined.

Pending Adoption of New Accounting Pronouncements

Refer to Note B to the consolidated financial statements for a discussion of recently issued accounting standards.

Table of Contents

CAUTIONARY NOTE ON FORWARD-LOOKING STATEMENTS

This annual report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that involve risks and uncertainties. These forward-looking statements relate to, among other things, the expected timetable for development of our product candidates, our growth strategy, and our future financial performance, including our operations, economic performance, financial condition, prospects, and other future events. We have attempted to identify forward-looking statements by using such words as anticipates, believes, can, continue, could, estimates, expects, intends, may, plans, potential, should, suggest, will, expressions. These forward-looking statements are only predictions and are largely based on our current expectations. These forward-looking statements appear in a number of places in this annual report.

In addition, a number of known and unknown risks, uncertainties, and other factors could affect the accuracy of these statements. Some of the more significant known risks that we face are the risks and uncertainties inherent in the process of discovering, developing, and commercializing products that are safe and effective for use as human therapeutics, including the uncertainty regarding market acceptance of our product candidates and our ability to generate revenues. The following risks and uncertainties may cause our actual results, levels of activity, performance, or achievements to differ materially from any future results, levels of activity, performance, or achievements expressed or implied by these forward-looking statements:

- our ability to raise capital to fund our operations;
- the timing and nature of results from our MultiStem clinical trials;
- the possibility of delays in, adverse results of, and excessive costs of the development process;
- our ability to successfully initiate and complete clinical trials of our product candidates;
- uncertainty regarding market acceptance of our product candidates and our ability to generate revenues, including MultiStem cell therapy for the treatment of stroke, AMI and ARDS, and the prevention of GvHD and other disease indications;
- changes in external market factors;
- changes in our industry s overall performance;
- changes in our business strategy;

our ability to protect and defend our intellectual property and related business operations, including the successful prosecution of our patent applications and enforcement of our patent rights, and operate our business in an environment of rapid technology and intellectual property development;

our possible inability to realize commercially valuable discoveries in our collaborations with pharmaceutical and other biotechnology companies;

our ability to meet milestones and earn royalties under our collaboration agreements;

our collaborators ability to continue to fulfill their obligations under the terms of our collaboration agreements;

the success of our efforts to enter into new strategic partnerships and advance our programs, including, without limitation, in the United States, Europe and Japan;

our possible inability to execute our strategy due to changes in our industry or the economy generally;

changes in productivity and reliability of suppliers;

the success of our competitors and the emergence of new competitors; and

the risks mentioned elsewhere in this annual report on Form 10-K under Item 1A, Risk Factors.

Although we currently believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee our future results, levels of activity or performance. We undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise, except as otherwise required by law. You are advised, however, to consult any further disclosures we make on related subjects in our reports on Forms 10-Q, 8-K and 10-K furnished to the SEC. You should understand that it is not possible to predict or identify all risk factors. Consequently, you should not consider any such list to be a complete set of all potential risks or uncertainties.

Table of Contents

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk

Our exposure to interest rate risk is related to our investment portfolio and our borrowings. Fixed rate investments and borrowings may have their fair market value adversely impacted from changes in interest rates. Due in part to these factors, our future investment income may fall short of expectations. Further, we may suffer losses in investment principal if we are forced to sell securities that have declined in market value due to changes in interest rates. When appropriate based on interest rates, we invest our excess cash primarily in debt instruments of the United States government and its agencies and corporate debt securities, and as of December 31, 2015, we had no investments.

We may enter into loan arrangements with financial institutions from time to time. At December 31, 2015, we had no borrowings outstanding other than a forgivable note payable associated with local grant funding bearing fixed, forgivable interest of 4.25% per annum. The principal and accrued interest on the note payable of $190,000 was forgiven in February 2016 upon achievement of certain milestones.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Table of Contents

Athersys, Inc.

Consolidated Financial Statements

Years Ended December 31, 2015, 2014 and 2013

Contents

Table of Contents

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders

Athersys, Inc.

We have audited the accompanying consolidated balance sheets of Athersys, Inc. as of December 31, 2015 and 2014, and the related consolidated statements of operations and comprehensive loss, stockholders equity and cash flows for each of the three years in the period ended December 31, 2015. Our audits also included the financial statement schedule listed in the Index at Item 15(a) (2). These financial statements and schedule are the responsibility of the Company s management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Athersys, Inc. at December 31, 2015 and 2014, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2015, in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Athersys, Inc. s internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated March 10, 2016 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Cleveland, Ohio

March 10, 2016

Table of Contents

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders

Athersys, Inc.

We have audited Athersys, Inc. s internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). Athersys Inc. s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management s Report on Internal Control over Financial Reporting in Item 9A. Our responsibility is to express an opinion on the company s internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Athersys, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2015, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets as of December 31, 2015 and 2014, and the related consolidated statements of operations and comprehensive loss, stockholders equity and cash flows for each of the three years in the period ended December 31, 2015 of Athersys, Inc. and our report dated March 10, 2016 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Cleveland, Ohio

March 10, 2016

Table of Contents

Athersys, Inc.

Consolidated Balance Sheets

(In Thousands, Except Share and Per Share Amounts)

	December 31, 2015	2014
Assets		
Current assets:		
Cash and cash equivalents	**$ 23,027**	$ 26,127
Accounts receivable	**361**	694
Prepaid expenses and other	**429**	427
Total current assets	**23,817**	27,248
Equipment, net	**1,135**	1,270
Deferred tax assets	**177**	200
Total assets	**$ 25,129**	$ 28,718
Liabilities and stockholders equity		
Current liabilities:		
Accounts payable	**$ 2,702**	$ 2,767
Accrued compensation and related benefits	**1,024**	1,060
Accrued clinical trial costs	**82**	126
Accrued expenses	**513**	664
Note payable	**190**	
Deferred revenue	**245**	75
Total current liabilities	**4,756**	4,692
Note payable		183
Warrant liabilities	**649**	2,948
Stockholders equity:		
Preferred stock, at stated value; 10,000,000 shares authorized, and no shares issued and outstanding at December 31, 2015 and December 31, 2014		
Common stock, $0.001 par value; 150,000,000 shares authorized, 83,720,154 and 77,706,816 shares issued and outstanding at December 31, 2015 and December 31, 2014, respectively	**84**	78
Additional paid-in capital	**322,582**	307,337
Accumulated deficit	**(302,942)**	(286,520)
Total stockholders equity	**19,724**	20,895
Total liabilities and stockholders equity	**$ 25,129**	$ 28,718

See accompanying notes.

53

Table of Contents

Athersys, Inc.

Consolidated Statements of Operations and Comprehensive Loss

(In Thousands, Except Share and Per Share Amounts)

	Year Ended December 31,		
	2015	2014	2013
Revenues			
Contract revenue	**$ 10,298**	$ 286	$ 755
Grant revenue	**1,650**	1,337	1,683
Total revenues	**11,948**	1,623	2,438
Costs and expenses			
Research and development (including stock compensation expense of $1,277, $1,158 and $639 in 2015, 2014 and 2013, respectively)	**21,316**	23,366	20,484
General and administrative (including stock compensation expense of $1,652, $1,447 and $884 in 2015, 2014 and 2013, respectively)	**7,536**	6,909	6,065
Depreciation	**267**	360	346
Total costs and expenses	**29,119**	30,635	26,895
Loss from operations	**(17,171)**	(29,012)	(24,457)
Income (expense) from change in fair value of warrants, net	**772**	6,591	(6,324)
Other (expense) income, net	**(61)**	86	38
Loss before income taxes	**(16,460)**	(22,335)	(30,743)
Income tax benefit	**38**	253	
Net loss and comprehensive loss	**$ (16,422)**	$ (22,082)	$ (30,743)
Net loss per common share, basic	**$ (0.20)**	$ (0.29)	$ (0.53)
Weighted average shares outstanding, basic	**82,143,610**	76,954,503	57,674,833
Net loss per common share, diluted	**$ (0.20)**	$ (0.31)	$ (0.53)
Weighted average shares outstanding, diluted	**82,851,091**	78,541,447	57,674,833

See accompanying notes.

Table of Contents

Athersys, Inc.

Consolidated Statements of Stockholders Equity

(In Thousands, Except Share Amounts)

	Preferred Stock Number of Shares	Preferred Stock Stated Value	Common Stock Number of Shares	Common Stock Par Value	Additional Paid-in Capital	Treasury Stock	Accumulated Deficit	Total Stockholders Equity
Balance at January 1, 2013		$	53,058,632	$ 53	$ 253,889	$	(233,695)	20,247
Stock-based compensation					1,523			1,523
Issuance of common stock from warrant exercises			397,826		797			797
Issuance of common stock and warrants, net of issuance costs			16,899,999	17	28,113	137		28,267
Issuance of common stock under equity compensation plans			327,023	1	1	(272)		(270)
Net and comprehensive loss							(30,743)	(30,743)
Balance at December 31, 2013			70,683,480	71	284,323	(135)	(264,438)	19,821
Stock-based compensation					2,605			2,605
Issuance of common stock from warrant exercises			928,924	1	868	69		938
Issuance of common stock and warrants, net of issuance costs			5,250,000	5	19,698	358		20,061
Issuance of common stock under equity compensation plans			844,412	1	(157)	(292)		(448)
Net and comprehensive loss							(22,082)	(22,082)
Balance at December 31, 2014			**77,706,816**	**78**	**307,337**		**$ (286,520)**	**$ 20,895**
Stock-based compensation					**2,929**			**2,929**
Issuance of common stock from warrant exercises			**966,184**	**1**	**975**			**976**
Issuance of common stock and warrants, net of issuance costs			**4,273,719**	**4**	**11,831**			**11,835**
Issuance of common stock under equity compensation plans			**773,435**	**1**	**(490)**			**(489)**

Net and comprehensive loss					**(16,422)**	**(16,422)**
Balance at December 31, 2015	**$ 83,720,154**	**$ 84**	**$ 322,582**	**$**	**$ (302,942)**	**$ 19,724**

See accompanying notes.

Table of Contents

Athersys, Inc.

Consolidated Statements of Cash Flows

(In Thousands)

	Year Ended December 31,		
	2015	**2014**	**2013**
Operating activities			
Net loss	**$ (16,422)**	$ (22,082)	$ (30,743)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	**267**	360	346
Stock-based compensation	**2,929**	2,605	1,523
Deferred tax benefit	**23**	(200)	
Change in fair value of warrant liabilities	**(772)**	(6,591)	6,324
Changes in operating assets and liabilities:			
Accounts receivable	**333**	(174)	(30)
Prepaid expenses and other	**4**	(33)	(94)
Accounts payable and accrued expenses	**(296)**	335	(196)
Deferred revenue	**170**	(11)	86
Net cash used in operating activities	**(13,764)**	(25,791)	(22,784)
Investing activities			
Purchases of equipment	**(132)**	(297)	(385)
Net cash used in investing activities	**(132)**	(297)	(385)
Financing activities			
Proceeds from issuance of common stock and warrants, net	**10,310**	19,621	29,454
Proceeds from exercise of warrants	**976**	938	402
Purchase of treasury stock	**(490)**	(292)	(272)
Net cash provided by financing activities	**10,796**	20,267	29,584
(Decrease) increase in cash and cash equivalents	**(3,100)**	(5,821)	6,415
Cash and cash equivalents at beginning of year	**26,127**	31,948	25,533
Cash and cash equivalents at end of year	**$ 23,027**	$ 26,127	$ 31,948

See accompanying notes.

Table of Contents

Athersys, Inc.

Notes to Consolidated Financial Statements

A. Background

We are an international biotechnology company that is focused primarily in the field of regenerative medicine and operate in one business segment. Our operations consist primarily of research and product development activities.

B. Accounting Policies

Principles of Consolidation

The consolidated financial statements include our accounts and results of operations and those of our wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

Revenue Recognition

Our license and collaboration agreements may contain multiple elements, including license and technology access fees, research and development funding, manufacturing revenue, cost-sharing, milestones and royalties. The deliverables under such an arrangement are evaluated under Accounting Standards Codification (ASC) 605-25, *Multiple-Element Arrangements.* Each required deliverable is evaluated to determine whether it qualifies as a separate unit of accounting based on whether the deliverable has stand-alone value to the customer. The arrangement s consideration that is fixed or determinable is then allocated to each separate unit of accounting based on the relative selling price of each deliverable. In general, the consideration allocated to each unit of accounting is recognized as the related goods or services are delivered, limited to the consideration that is not contingent upon future deliverables.

As of December 31, 2015, we have recognized the full amount of license fees under our collaboration agreements as contract revenue under ASC 605-25, since the performance periods for our multiple element arrangements have concluded. This excludes the Healios collaboration that was entered into in 2016.

For agreements entered into prior to January 1, 2011 and not materially modified thereafter (such as Pfizer and Bristol-Myers Squibb contract revenue), we continue to apply our prior accounting policy with respect to such arrangements. Under this policy, the deliverables under the arrangement are evaluated to assess whether they have standalone value and objective and reliable evidence of fair value, and if so, are accounted for as a single unit. We then recognize revenue for each unit based on the culmination of the earnings process under ASC 605-S25, issued as Staff Accounting Bulletin (SAB) Topic 13, and our estimated performance period for the single units of accounting based on the specific terms of each collaborative agreement. The performance period for such agreements has concluded.

We recognize revenue from at-risk, performance milestones that are substantive in the period that the milestone is achieved, as defined in the respective contracts.

Also included in contract revenue are license fees received from Bristol-Myers Squibb, which are specifically set forth in the license and collaboration agreement as amounts due to us based on our completion of certain tasks (e.g., delivery and acceptance of a cell line) and development milestones (e.g., clinical trial phases), and as such, are not based on estimates that are susceptible to change. Such amounts are invoiced and recorded as revenue as tasks are completed and as milestones are achieved.

Similarly, grant revenue consists of funding under cost reimbursement programs primarily from federal and state sources for qualified research and development activities performed by us, and as such, are not based on estimates that are susceptible to change. Such amounts are invoiced (unless prepaid) and recorded as revenue as tasks are completed.

We recognize revenue from royalties relating to the sale by a licensee of the licensed product. Royalty revenue is recognized on an accrual basis in accordance with the substance of the relevant agreement and based on the receipt from the licensee of the relevant information to enable calculation of the royalty due.

Cash and Cash Equivalents

We consider all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents. Cash equivalents are primarily invested in money market funds and commercial paper. The carrying amount of our cash equivalents approximates fair value due to the short maturity of the investments.

Table of Contents

Research and Development

Research and development expenditures, which consist primarily of costs associated with external clinical and preclinical study fees, manufacturing costs, salaries and related personnel costs, legal expenses resulting from intellectual property application processes, and laboratory supply and reagent costs, including direct and allocated overhead expenses, are charged to expense as incurred.

Collaborative Arrangements

Collaborative arrangements that involve cost or future profit sharing are reviewed to determine the nature of the arrangement and the nature of the collaborative parties businesses. The arrangements are also reviewed to determine if one party has sole or primary responsibility for an activity, or whether the parties have shared responsibility for the activity. If responsibility for an activity is shared and there is no principal party, then the related costs of that activity are recognized by us on a net basis in the statement of operations (e.g., total cost less reimbursement from collaborator). If we are deemed to be the principal party for an activity, then the costs and revenues associated with that activity are recognized on a gross basis in the statement of operations. The accounting may be susceptible to change if the nature of a collaborator s business changes. Currently, we have no collaborations accounted for on a net basis.

Clinical Trial Costs

Clinical trial costs are accrued based on work performed by outside contractors that manage and perform the trials, and that manufacture clinical product. We obtain initial estimates of total costs based on enrollment of subjects, project management estimates, manufacturing estimates and other activities. Actual costs are typically charged to us and recognized as the tasks are completed by the contractor, and if we are invoiced based on progress payments as opposed to actual costs, we develop estimates of work completed to date. Accrued clinical trial costs may be subject to revisions as clinical trials progress, and any revisions are recorded in the period in which the facts that give rise to the revisions become known.

Royalties

We may be required to make future royalty payments to certain parties based on product sales under license agreements. We did not pay any royalties during the three-year period ended December 31, 2015.

Long-Lived Assets

Equipment is stated at acquired cost less accumulated depreciation. Laboratory and office equipment are depreciated on the straight-line basis over the estimated useful lives (three to ten years). Leasehold improvements are amortized over the shorter of the lease term or estimated useful life.

Long-lived assets are evaluated for impairment when events or changes in circumstances indicate that the carrying amount of the asset or related group of assets may not be recoverable. If the expected future undiscounted cash flows are less than the carrying amount of the asset, an impairment loss is recognized at that time. Measurement of impairment may be based upon appraisal, market value of similar assets or discounted cash flows.

Patent Costs and Rights

Costs of prosecuting and maintaining patents and patent rights are expensed as incurred. We have filed for broad intellectual property protection on our proprietary technologies. We currently have numerous United States and international patents and patent applications related to our technologies.

Warrant Liabilities

We account for common stock warrants as either liabilities or as equity instruments depending on the specific terms of the warrant agreements. Registered common stock warrants that could require cash settlement are accounted for as liabilities. We classify these warrant liabilities on the consolidated balance sheet as non-current liabilities. The warrant liabilities are revalued at fair value at each balance sheet date subsequent to the initial issuance. Changes in the fair market value of the warrants are reflected in the consolidated statement of operations as income or expense from change in fair value of warrants.

Concentration of Credit Risk

Our accounts receivable are generally comprised of amounts due from collaborators and granting authorities and are subject to concentration of credit risk due to the absence of a large number of customers. At December 31, 2015, the majority of our accounts receivable are due from granting authorities. We do not require collateral from these customers.

Table of Contents

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

Stock-Based Compensation

We recognize stock-based compensation expense on the straight-line method and use a Black-Scholes option-pricing model to estimate the fair value of option awards. The expected term of options granted represent the period of time that option grants are expected to be outstanding. We use the simplified method to calculate the expected life of option grants given our limited history of exercise activity and determine volatility by using our historical stock volatility. The fair value of our restricted stock units are equal to the closing price of our common stock on the date of grant and is expensed over the vesting period on a straight-line basis. Estimates of fair value are not intended to predict actual future events or the value ultimately realized by persons that receive equity awards.

Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. If actual forfeitures vary from the estimate, we recognize the difference in compensation expense in the period the actual forfeitures occur or when options vest.

All of the aforementioned estimates and assumptions are evaluated on a quarterly basis and may change as facts and circumstances warrant. Changes in these assumptions can materially affect the estimate of the fair value of our share-based payments and the related amount recognized in our financial statements.

The following weighted-average input assumptions were used in determining the fair value of the Company s stock options:

	December 31,		
	2015	2014	2013
Volatility	**83.9%**	104.0%	109.2%
Risk-free interest rate	**2.1%**	2.1%	1.5%
Expected life of option	**6.14 years**	6.09 years	6.14 years
Expected dividend yield	**0.0%**	0.0%	0.0%

Income Taxes

Deferred tax liabilities and assets are determined based on the differences between the financial reporting and tax basis of assets and liabilities and are measured using the tax rate and laws currently in effect. We evaluate our deferred income taxes to determine if a valuation allowance should be established against the deferred tax assets or if the valuation allowance should be reduced based on consideration of all available evidence, both positive and negative, using a more likely than not standard.

We had no liability for uncertain income tax positions as of December 31, 2015 and 2014. Our policy is to recognize potential accrued interest and penalties related to the liability for uncertain tax benefits, if applicable, in income tax expense. Net operating loss and credit carryforwards since inception remain open to examination by taxing authorities, and will for a period post utilization.

Net Loss per Share

Basic and diluted net loss per share have been computed using the weighted-average number of shares of common stock outstanding during the period. For each reporting period, we evaluate the income from our warrant liabilities and consider whether it results in a potentially dilutive effect to net loss per share. For the years ended December 31, 2015 and 2014, we had such a dilutive effect related to our warrants with an exercise price of $1.01, which are included in the table below. Any such warrants are then omitted from the subsequent following table of instruments that were excluded from the calculation of diluted net loss per share. The table below reconciles the net loss and the number of shares used to calculate basic and diluted net loss per share for the years ended December 31, 2015, 2014 and 2013, in thousands.

	Year ended December 31,		
	2015	2014	2013
Numerator:			
Net loss and comprehensive loss	**$ (16,422)**	$ (22,082)	$ (30,743)
Less: income from change in fair value of warrants	**(332)**	(2,141)	
Net loss attributable to common stockholders used to calculate diluted net loss per share	**$ (16,754)**	$ (24,223)	$ (30,743)
Denominator:			
Weighted-average shares outstanding - basic	**82,144**	76,955	57,675
Potentially dilutive common shares outstanding:			
Warrants	**707**	1,586	
Weighted-average shares used to calculate diluted net loss per share	**82,851**	78,541	57,675
Basic net loss per share	**$ (0.20)**	$ (0.29)	$ (0.53)
Dilutive net loss per share	**$ (0.20)**	$ (0.31)	$ (0.53)

Table of Contents

We have outstanding options, restricted stock units and warrants that are not used in the calculation of diluted net loss per share because to do so would be antidilutive. The following instruments were excluded from the calculation of diluted net loss per share because their effects would be antidilutive:

	Year ended December 31,		
	2015	2014	2013
Stock options	**7,052,642**	6,383,457	5,129,579
Restricted stock units	**1,069,100**	1,889,267	2,449,346
Warrants	**2,810,000**	6,310,000	8,909,027
	10,931,742	14,582,724	16,487,952

Reclassifications

Certain prior year amounts have been reclassfied to conform with current year presentations.

Recently Issued Accounting Standards

In May 2014, the Financial Accounting Standards Board (FASB) issued ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*. ASU 2014-09 requires an entity to recognize revenue in a manner that depicts the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. To achieve that core principle, the amendment provides five steps that an entity should apply when recognizing revenue. The amendment also specifies the accounting of some costs to obtain or fulfill a contract with a customer and expands the disclosure requirements around contracts with customers. An entity can either adopt this amendment retrospectively to each prior reporting period presented or retrospectively with the cumulative effect of initially applying the update recognized at the date of initial application. In August 2015, the FASB issued ASU 2015-14, which delays the effective date by one year, making the new standard effective for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period. Early adoption is permitted for annual reporting periods beginning after December 15, 2016. We are in the process of evaluating, but have not determined, the impact that the adoption of ASU 2014-09 will have on our consolidated financial statements.

In August 2014, the FASB issued ASU 2014-15, *Presentation of Financial Statements - Going Concern, Disclosure of Uncertainties about an Entity s Ability to Continue as a Going Concern*, which establishes management s responsibility to evaluate whether there is substantial doubt about an entity s ability to continue as a going concern and, if so, to provide related footnote disclosures. ASU 2014-15 provides a definition of the term substantial doubt and requires an assessment for a period of one year after the date that the financial statements are issued or available to be issued. Management will also be required to evaluate and disclose whether its plans alleviate that doubt. The guidance is effective for the annual periods ending after December 15, 2016 and interim periods thereafter with early adoption permitted. We are in the process of evaluating the impact the new guidance will have on our disclosures.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*, which requires lessees to put most leases on their balance sheets, but recognize expenses on their income statements in a manner similar to current accounting practice. Under the guidance, lessees initially recognize a lease liability for the obligation to make lease payments and a right-of-use (ROU) asset for the right to use the underlying asset for the lease term. The lease liability is measured at the present value of the lease payments over the lease term. The ROU asset is measured at the lease liability amount,

adjusted for lease prepayments, lease incentives received and the lessee s initial direct costs. The guidance is effective for the annual periods beginning after December 15, 2018 and interim periods thereafter, with early adoption permitted. We are in the process of evaluating the impact the new guidance will have on our financial statements.

In November 2015, the FASB issued ASU 2015-17, *Balance Sheet Classification of Deferred Taxes,* which amends the existing guidance to require that deferred income tax liabilities and assets be classified as noncurrent in a classified balance sheet and eliminates the prior guidance, which required an entity to separate deferred tax liabilities and assets into a current amount and a noncurrent amount in a classified balance sheet. The amendments in this ASU are effective for financial statements for annual periods and interim periods within those annual periods beginning after December 15, 2016, with early adoption permitted. In addition, the new guidance can be applied either prospectively to all deferred tax liabilities and assets or retrospectively to all periods presented. The Company is currently evaluating its plans for adopting this ASU either prospectively or retrospectively and the impact of the adoption of the ASU on our financial statements.

Table of Contents

C. Equipment

Equipment consists of (in thousands):	December 31, 2015	2014
Laboratory equipment	**$ 6,232**	$ 6,162
Office equipment and leasehold improvements	**2,691**	2,849
	8,923	9,011
Accumulated depreciation	**(7,788)**	(7,741)
	$ 1,135	$ 1,270

In 2015 and 2014, we disposed of approximately $0.2 million and $0.8 million, respectively, of obsolete laboratory equipment, office equipment and leasehold improvements, all of which was fully depreciated.

D. Financial Instruments

Fair Value Measurements

We classify the inputs used to measure fair value into the following hierarchy:

Level 1 Unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2 Unadjusted quoted prices in active markets for similar assets or liabilities, or unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or inputs other than quoted prices that are observable for the asset or liability.

Level 3 Unobservable inputs for the asset or liability.

The following table provides a summary of the financial assets and liabilities measured at fair value on a recurring basis as follows: (in thousands):

		Fair Value Measurements at December 31, 2015 Using		
Description	**Balance as of December 31, 2015**	**Quoted Prices in Active Markets for Identical Assets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**
Warrant liabilities	**$ 649**	**$**	**$**	**$ 649**

	Fair Value Measurements at December 31, 2014 Using

Description	Balance as of December 31, 2014	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Warrant liabilities	$ 2,948	$	$	$ 2,948

We review and reassess the fair value hierarchy classifications on a quarterly basis. Changes from one quarter to the next related to the observability of inputs in a fair value measurement may result in a reclassification between fair value hierarchy levels. There were no reclassifications for all periods presented.

The estimated fair value of warrants accounted for as liabilities, representing a level 3 fair value measure, was determined on the issuance date and subsequently marked to market at each financial reporting date. We use the Black-Scholes valuation model to value the warrant liabilities at fair value. The fair value is estimated using the expected volatility based on our historical volatility for warrants issued after January 1, 2013, or for warrants issued prior to 2013, using the historical volatilities of comparable companies from a representative peer group selected based on industry and market capitalization. The fair value of the warrants is determined using probability weighted-average assumptions, when appropriate. The following inputs were used at December 31, 2015:

	Expected Volatility	Risk-Free Interest Rate	Expected Life
Warrants with one year or less remaining term	52.31% - 72.20%	0.14% 0.49%	0.09 0.54 year
Warrants with greater than one year remaining term	69.60%	0.65%	1.20 years

Table of Contents

A roll-forward of fair value measurements using significant unobservable inputs (Level 3) for the warrants is as follows (in thousands):

	Year ended December 31, 2015
Balance January 1, 2015	$ 2,948
Settlements from exercise	(1,527)
Income for the period	(772)
Balance December 31, 2015	**$ 649**

Financing Arrangements

We lease office and laboratory space under operating leases. The lease for our corporate offices and laboratories began in 2000 and currently expires in March 2017, and we have the option to renew annually through 2019. Our rent is $267,000 per year and our rental rate has not changed since the lease inception in 2000. Also, we lease office and laboratory space for our Belgian subsidiary, which currently expires in July 2016 and includes options to renew annually through July 2022, with annual rent of approximately $174,000, subject to adjustments based on an inflationary index. We also have an option for additional space in Belgium that expires in June 2016.

Aggregate rent expense was approximately $467,000, $517,000 and $491,000 in 2015, 2014 and 2013, respectively. The future annual minimum lease commitments at December 31, 2015 are approximately $373,000 for 2016 and $75,000 for 2017.

In 2012, we entered into an arrangement with the Global Cardiovascular Innovation Center (GCIC), and the Cleveland Clinic Foundation in which we were entitled to proceeds of up to $500,000 in the form of a forgivable loan to fund certain preclinical work. Interest on the loan accrued at a fixed rate of 4.25% per annum and was added to the outstanding principal, and the loan carried an expiration date of March 31, 2016. In February 2016, the loan was forgiven according to its terms based on the achievement of certain milestones. As of December 31, 2015, the loan of $166,000 ($190,000 including accrued interest) was recorded as a current liability, and the income from forgiveness will be recognized in February 2016. The fair value of our note payable at December 31, 2015 is not determinable due to lack of marketability of the note payable.

We paid no interest during the three years ended December 31, 2015.

E. Collaborations and Revenue Recognition

Chugai

In October 2015, we and Chugai Pharmaceutical Co. Ltd. (Chugai) agreed to terminate the License Agreement (the Agreement), dated February 28, 2015, between the parties, as a result of an inability to reach an agreement on the modification of the financial terms of the Agreement and on the development strategy, as proposed by Chugai, of our MultiStem® cell therapy for the treatment of ischemic stroke in Japan. Pursuant to the terms of the Agreement, upon termination, we regained all rights for developing our stem cell technologies and products for ischemic stroke in Japan, and Chugai no longer has any license rights or options with respect to our technologies and products. Neither we nor Chugai have any further obligations to each other.

Under the Agreement, we received a non-refundable, up-front cash payment of $10 million from Chugai, of which approximately $2.0 million was temporarily withheld by Japan taxing authorities and was refunded in September 2015. The $10 million upfront payment from Chugai was recorded as deferred revenue since we had concluded that the license grant did not have standalone value (as defined in ASC 605-25) at the inception of the arrangement. In connection with the termination and the parties having no further obligations under the Agreement, we recognized the $10 million upfront payment from Chugai as revenue in October 2015.

Table of Contents

Pfizer

In 2009, we entered into a collaboration with Pfizer Inc. (Pfizer) to develop and commercialize our MultiStem product candidate to treat inflammatory bowel disease for the worldwide market on an exclusive basis. In addition, Pfizer conducted a Phase 2 clinical study exploring the potential of MultiStem cell therapy to treat advanced and severe ulcerative colitis, and would be responsible for any subsequent development. Overall, the study results were disappointing, even though a single administration of the cell therapy may have had some short-term beneficial effects. Taking these results into account, following an internal portfolio review, Pfizer determined that it would not invest further in this program, as would be required by the collaboration, and notified us of this decision to terminate the license agreement effective in the third quarter of 2015. In connection with the termination, all rights that Pfizer had to the program reverted to us, and intellectual property generated through the collaboration is owned by us.

RTI Surgical, Inc.

In 2010, we entered into an agreement with RTI Surgical, Inc. (RTI) to develop and commercialize biologic implants using our technology for certain orthopedic applications in the bone graft substitutes market on an exclusive basis. Under the terms of the agreement, we received a non-refundable license fee in installments and performed certain services that were concluded in 2012, and we are eligible to receive cash payments upon the successful achievement of certain commercial milestones. We evaluated the nature of the events triggering these contingent payments and concluded that these events are substantive and that revenue will be recognized in the period in which each underlying triggering event occurs. No milestone revenue has been recognized to date. In addition, we began receiving in 2014 tiered royalties on worldwide commercial sales of implants using our technologies based on a royalty rate starting in the mid-single digits and increasing into the mid-teens. Any royalties may be subject to a reduction if third-party payments for intellectual property rights are necessary or commercially desirable to permit the manufacture or sale of the product.

Grant Award

In 2015, we and Cell Therapy Catapult, a not-for-profit center focused on the development of the United Kingdom regenerative medicine industry, were each awarded a grant from Innovate UK in support of a Phase 2a clinical study evaluating the administration of MultiStem cell therapy to acute respiratory distress syndrome patients. The aggregate grant funding is expected to provide up to £2.0 million ($2.9 million based on the December 31, 2015 exchange rate) in support over the course of the study. Of the £2.0 million total award, our grant of £750,000 ($1.1 million based on the December 31, 2015 exchange rate) will be used primarily to fund the clinical product and related costs. Cell Therapy Catapult will use their grant proceeds of £1.25 million primarily to fund the clinical site costs and their service costs as study coordinators. We recognized approximately $130,000 of grant revenue in 2015 in connection with this grant.

F. Capitalization and Warrant Liability

Capitalization

At both December 31, 2015 and 2014, we had 150.0 million shares of common stock and 10.0 million shares of undesignated preferred stock authorized. No shares of preferred stock have been issued as of December 31, 2015.

The following shares of common stock were reserved for future issuance:

		December 31	
		2015	**2014**
Stock-based compensation plans		**8,838,165**	9,903,583
Warrants to purchase common stock	2011 offering	**1,310,000**	1,310,000
Warrants to purchase common stock	2012 offering	**2,054,893**	3,021,077
Warrants to purchase common stock	2013 offering		3,500,000
Warrants to purchase common stock	2014 offering	**1,500,000**	1,500,000
		13,703,058	19,234,660

As of December 31, 2015, the terms of our outstanding warrants to purchase shares of common stock with a weighted average price of $2.77 per share were as follows:

Number of Underlying Shares	**Exercise Price**	**Expiration**
1,310,000	$3.55	February 2, 2016
2.054,893	$1.01	March 14, 2017
1,500,000	$4.50	July 15, 2016
4,864,893		

Table of Contents

In January 2014, we completed a registered direct offering generating net proceeds of approximately $18.8 million through the issuance of 5,000,000 shares of common stock and immediately exercisable warrants to purchase 1,500,000 shares of common stock with an exercise price of $4.50 per share that expire on July 15, 2016. The securities were sold in multiples of a fixed combination of one share of common stock and a warrant to purchase 0.30 shares of common stock at an offering price of $4.10 per fixed combination.

In December 2013, we completed a registered direct offering generating net proceeds of approximately $18.4 million through the issuance of 10,000,000 shares of common stock and warrants to purchase 3,500,000 shares of common stock with an exercise price of $2.50 per share and an expiration date of March 31, 2015. The securities were sold in multiples of a fixed combination of one share of common stock and a warrant to purchase 0.35 shares of common stock at an offering price of $2.00 per fixed combination. In January 2015, we amended all of the December 2013 warrants to purchase 3,500,000 shares of common stock to increase the exercise price from $2.50 to $2.75 per share, and to extend the expiration date from March 31, 2015 to May 31, 2015. All 3,500,000 warrants expired unexercised in May 2015.

Warrants associated with a March 2012 private placement financing with an exercise price of $1.01 per share have been exercised from time to time, and as of December 31, 2015, warrants to purchase an aggregate of 2,292,934 shares of common stock have been exercised to date, resulting in aggregate proceeds of approximately $2.3 million.

Aspire Capital

In November 2011, we entered into an equity purchase agreement with Aspire Capital Fund, LLC (Aspire Capital), which provided that Aspire Capital was committed to purchase up to an aggregate of $20.0 million of shares of our common stock over a two-year term, subject to our election to sell any such shares. As part of the agreement, Aspire Capital made an initial investment of $1.0 million in us and received 266,667 additional shares as compensation for its commitment. As of September 2013, we had sold all the remaining shares that were available under the equity facility, which was due to expire. In October 2013, we terminated the expiring 2011 equity purchase agreement and entered into a new 2013 equity purchase agreement with Aspire Capital to purchase up to an aggregate of $25.0 million of shares of our common stock over a new two-year period. The terms of the 2013 equity facility were similar to the previous arrangement, and we issued 333,333 shares of our common stock Aspire Capital as a commitment fee in October 2013 and filed a registration statement for the resale of 10,000,000 shares of common stock in connection with the new equity facility.

During the years ended December 31, 2015 and 2014, we sold 4,023,719 and 250,000 shares, respectively, to Aspire Capital at average prices of $2.58 and $3.78 per share, respectively. As of the 2013 equity facility s expiration in November 2015, we received proceeds of approximately $24.8 million in aggregate under the Aspire equity purchase agreements since its inception in 2011. In December 2015, we entered into a new 2015 equity purchase agreement with Aspire Capital to purchase up to an aggregate of $30.0 million of shares of our common stock over a new three-year period. The terms of the 2015 equity facility are similar to the previous arrangements, and we issued 250,000 shares of our common stock to Aspire Capital as a commitment fee in December 2015, which are accounted for as a cost of the offering, and filed a registration statement for the resale of 16,600,000 shares of common stock in connection with the new equity facility.

Warrant Liabilities

The warrants we issued in the January 2014 and December 2013 registered direct offerings contain(ed) a provision for a cash payment in the event that the shares are not delivered to the holder within two trading days. The cash payment equals $10 per day per $2,000 of warrant shares for each day late. The warrants we issued in both the March 2012

private placement and the February 2011 registered direct offering each contain(ed) a provision for net cash settlement in the event that there is a fundamental transaction (e.g., merger, sale of substantially all assets, tender offer, or share exchange). If a fundamental transaction occurs in which the consideration issued consists of all cash or stock in a non-public company, then the warrant holder has the option to receive cash equal to a Black Scholes value of the remaining unexercised portion of the warrant. Further, the March 2012 warrants include price protection in the event we sell stock below the exercise price, as defined, and the exercise price was reduced in February 2013 to $1.01 per share as a result of the October 2012 public offering.

Table of Contents

The warrants have been classified as liabilities, as opposed to equity, due to the potential adjustment to the exercise price that could result upon late delivery of the shares or potential cash settlement upon the occurrence of certain events as described above, and are recorded at their fair values at each balance sheet date.

G. Stock-Based Compensation

We have two incentive plans that authorized an aggregate of 11,500,000 shares of common stock for awards to employees, directors and consultants. These equity incentive plans authorize the issuance of equity-based compensation in the form of stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares and units, and other stock-based awards to qualified employees, directors and consultants. As of December 31, 2015, a total of 2,661,835 shares of common stock have been issued under our equity incentive plans.

As of December 31, 2015, a total of 716,423 shares were available for issuance under our equity compensation plans and stock-based awards to purchase 8,121,742 shares of common stock were outstanding. We recognized $2,929,000, $2,605,000 and $1,523,000 of stock-based compensation expense in 2015, 2014 and 2013, respectively.

Stock Options

The weighted average fair value of options granted in 2015, 2014 and 2013 was $0.94, $1.29 and $1.42 per share, respectively. The total fair value of options vested during 2015, 2014 and 2013 was $1,225,000, $940,000 and $585,000, respectively. At December 31, 2015, total unrecognized estimated compensation cost related to unvested stock options was approximately $2,245,000, which is expected to be recognized by mid-2019 using the straight-line method. The weighted average contractual life of unvested options at December 31, 2015 was 8.73 years.

A summary of our stock option activity and related information is as follows:

	Number of Options	Weighted Average Exercise Price
Outstanding January 1, 2013	4,058,184	$ 4.36
Granted	1,336,928	1.71
Exercised	(1,312)	1.26
Forfeited / Terminated / Expired	(264,221)	3.36
Outstanding December 31, 2013	5,129,579	3.72
Granted	1,420,800	1.68
Exercised	(103,481)	1.75
Forfeited / Expired	(63,441)	1.98
Outstanding December 31, 2014	6,383,457	3.31
Granted	1,215,296	1.31
Exercised	(32,439)	1.60
Forfeited / Expired	(513,672)	2.34
Outstanding December 31, 2015	**7,052,642**	**$ 3.05**

Vested during 2015	**945,297**	**$ 1.62**
Vested and exercisable at December 31, 2015	**5,065,143**	**$ 3.65**

	December 31, 2015					
	Options Outstanding			Options Vested and Exercisable		
Exercise Price	Number of Options	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number of Options	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price
$1.16 1.86	3,815,059	8.22	$ 1.55	1,841,560	7.66	$ 1.61
$2.09 3.84	244,583	5.14	$ 2.73	234,583	4.99	$ 2.73
$4.00 5.28	2,993,000	1.49	$ 4.98	2,989,000	1.48	$ 4.98
	7,052,642			**5,065,143**		

Table of Contents

Restricted Stock Units

A summary of our restricted stock unit activity and related information is as follows:

	Number of Restricted Stock Units	Weighted Average Fair Value
Outstanding January 1, 2013	70,814	$ 1.86
Granted	2,851,964	1.71
Vested-common stock issued	(486,359)	1.72
Forfeited/expired	(5,073)	1.77
Outstanding December 31, 2013	2,449,346	1.71
Granted	460,112	1.65
Vested-common stock issued	(1,013,446)	1.71
Forfeited/expired	(6,745)	1.68
Outstanding December 31, 2014	1,889,267	1.70
Granted	455,776	1.28
Vested-common stock issued	(1,032,979)	1.69
Forfeited/expired	(242,964)	1.62
Outstanding December 31, 2015	**1,069,100**	**$ 1.55**
Vested/Issued cumulative at December 31, 2015	**2,524,603**	**$ 1.71**

The total fair value of restricted stock units vested during 2015, 2014 and 2013 was $1,773,000, $1,734,000 and $805,000, respectively. At December 31, 2015, total unrecognized estimated compensation cost related to unvested restricted stock units was approximately $1,533,000, which is expected to be recognized by mid-2019 using the straight-line method.

H. Income Taxes

At December 31, 2015, we had U.S. federal net operating loss and research and development tax credit carryforwards of approximately $102,261,000 and $4,277,000, respectively. Such operating losses and tax credits may be used to reduce future taxable income and tax liabilities and will expire at various dates between 2020 and 2036. We also had foreign net operating losses and foreign tax credit carryforwards of approximately $12,724,000 and $177,000, respectively. Such foreign operating losses do not expire and foreign tax credits will expire between 2016 and 2020. We also had state and city net operating loss carryforwards aggregating approximately $53,657,000. Such operating losses may be used to reduce future taxable income and tax liabilities and will expire at various dates between 2016 and 2036.

The utilization of net operating loss and tax credit carryforwards generated prior to October 2012 (the Section 382 Limited Attributes) is substantially limited under Section 382 of the Internal Revenue Code of 1986, as amended, as a result of our equity offering that occurred in October 2012. U.S. federal net operating loss carryforwards of $65,633,000, research and development tax credits of $4,277,000, and state and local net operating loss carryforwards

of $48,484,000 generated since 2012, as well as foreign net operating loss carryforwards of $12,724,000 and foreign tax credits of $177,000, are not subject to annual limitations. The Section 382 Limited Attributes may be used to reduce future taxable income and tax liabilities and will expire at various dates between 2016 and 2031.

Table of Contents

A reconciliation of the Federal statutory income tax rate to our effective tax rate is as follows:

	Percent of Income/(Loss) before Income Taxes	
	2015	**2014**
Statutory Federal income tax rate	**34.0%**	34.0%
State income taxes - net of Federal tax benefit	**1.5%**	1.0%
Other permanent differences	**(3.5%)**	6.6%
Valuation allowance	**(40.2%)**	(48.1%)
Research and development - U.S.	**8.2%**	6.5%
Research and development - Foreign	**0.2%**	0.9%
Effective tax rate for the year	**0.2%**	0.9%

Significant components of our deferred tax assets are as follows (in thousands):

	December 31,	
	2015	**2014**
Net operating loss carryforwards	**$ 40,215**	$ 34,657
Research and development credit carryforwards	**4,454**	3,134
Compensation expense	**3,300**	3,177
Other	**1,129**	1,084
Total deferred tax assets	**49,098**	42,052
Valuation allowance for deferred tax assets	**(48,921)**	(41,852)
Net deferred tax assets	**$ 177**	$ 200

Because of our cumulative losses, substantially all of the deferred tax assets have been fully offset by a valuation allowance. We have not paid income taxes for the three-year period ended December 31, 2015. In 2015 and 2014, we recognized a refundable tax benefit related to research and development credits associated with our foreign subsidiary.

I. Profit Sharing Plan and 401(k) Plan

We have a profit sharing and 401(k) plan that covers substantially all employees and allows for discretionary contributions by us. We make employer contributions to this plan, and the expense was approximately $314,000 in 2015, $284,000 in 2014, and $97,000 in 2013.

J. Subsequent Events

Healios

On January 8, 2016, we entered into a license agreement with Healios K.K. (Healios) to develop and commercialize MultiStem cell therapy for ischemic stroke in Japan, and to provide Healios with access to Athersys proprietary

MAPC technology for use in Healios organ bud program, initially for transplantation to treat liver disease or dysfunction. Under the agreement, Healios also obtained a right to expand the scope of the collaboration to include the exclusive rights to develop and commercialize MultiStem for the treatment of two additional indications in Japan, which include acute respiratory distress syndrome (ARDS) and another indication in the orthopedic area, and to include all indications for the organ bud program. Healios will develop and commercialize the MultiStem product in Japan, and we will provide the manufactured product to Healios.

Under the terms of the agreement, we received an up-front cash payment of $15 million from Healios, and the collaboration can be expanded at Healios election. If Healios expands the collaboration, we will be entitled to receive a cash payment of $10 million. Healios may exercise its option to expand the collaboration by the date that is the later of (i) December 31, 2016 and (ii) the receipt of the initial results from Athersys ongoing ARDS clinical trial.

For the ischemic stroke indication, we may also receive additional success-based development and regulatory approval milestones aggregating up to $30 million, as well as potential sales milestones of up to $185 million. We will also receive tiered royalties on product sales, starting in the low double digits and increasing incrementally on net sales levels. Additionally, we will receive payments for product supplied to Healios under a manufacturing supply agreement.

Table of Contents

If Healios exercises the option to expand to collaboration, we would be entitled to receive royalties from product sales and success-based development, regulatory approval and sales milestones, as well as payments for product supply for the two additional indications.

For the organ bud product, we are entitled to receive a fractional royalty percentage on net sales of the organ bud products and will receive payments for manufactured product supplied to Healios under a manufacturing supply agreement. Additionally, we have a right of first negotiation for commercialization of an organ bud product in North America, with such right expiring on the later of (i) the date five years from the effective date of the agreement and (ii) 30 days after authorization to initiate clinical studies on an organ bud product under the first investigational new drug application or equivalent in Japan, North America or the European Union.

To determine the appropriate accounting for the license agreement, we will evaluate the agreement and related facts and circumstances, focusing in particular on the rights and obligations of the arrangement. We have determined that our obligations under the agreement represent multiple deliverables. For deliverables with standalone value, our policy is to account for these as separate units of accounting We allocate the overall consideration of the arrangement that is fixed and determinable, excluding consideration that is contingent upon future deliverables, to the separate units of accounting based on estimated selling prices (as defined in ASC 605-25) of each deliverable.

K. Quarterly Financial Data (unaudited)

The following table presents quarterly data for the years ended December 31, 2015 and 2014, in thousands, except per share data:

	2015				
	First Quarter	**Second Quarter**	**Third Quarter**	**Fourth Quarter**	**Full Year**
Revenues	**$ 731**	**$ 216**	**$ 396**	**$ 10,605**	**$ 11,948**
Net income (loss)	**$ (12,482)**	**$ (1,035)**	**$ (6,497)**	**$ 3,592**	**$ (16,422)**
Basic net income (loss) per common share	**$ (0.16)**	**$ (0.01)**	**$ (0.08)**	**$ 0.04**	**$ (0.20)**
Diluted net loss per common share	**$ (0.16)**	**$ (0.05)**	**$ (0.08)**	**$ 0.04**	**$ (0.20)**

	2014				
	First Quarter	**Second Quarter**	**Third Quarter**	**Fourth Quarter**	**Full Year**
Revenues	$ 707	$ 388	$ 293	$ 235	$ 1,623
Net income (loss)	$ (11,484)	$ 675	$ (4,719)	$ (6,554)	$ (22,082)
Basic net income (loss) per common share	$ (0.15)	$ 0.01	$ (0.06)	$ (0.08)	$ (0.29)
Diluted net loss per common share	$ (0.15)	$ (0.04)	$ (0.08)	$ (0.08)	$ (0.31)

Due to the effect of quarterly changes to outstanding shares of common stock and weightings, the annual loss per share will not necessarily equal the sum of the respective quarters.

Table of Contents

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: An evaluation was carried out under the supervision and with the participation of our management, including our principal executive officer and our principal financial officer, of the effectiveness of our disclosure controls and procedures as of the end of the period covered by this annual report on Form 10-K. Based on that evaluation, these officers have concluded that as of December 31, 2015, our disclosure controls and procedures are effective.

Management s report on internal control over financial reporting: Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of internal control over financial reporting based on the 2013 framework in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation under the 2013 framework in Internal Control Integrated Framework, management concluded that our internal control over financial reporting was effective as of December 31, 2015. The effectiveness of our internal control over financial reporting as of December 31, 2015 has been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their report, which is included in Item 8 of this annual report on Form 10-K and incorporated herein by reference.

Changes in internal control: During the fourth quarter of 2015, there has been no change in our internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

On January 7, 2016 and March 7, 2016, the Board of Directors of the Company, upon the recommendation of the Compensation Committee of the Board of Directors of the Company, approved a cash bonus incentive plan (the Plan) for the year ended December 31, 2016 for the named executive officers of the Company. The Plan provides that each participant is eligible to earn a bonus during the award term of January 1, 2016 through December 31, 2016. The Plan provides for the following target bonus percentages of the named executive officer s salary during the award term, weighted as set forth below on the achievement of specified corporate goals, with the remainder based on individual/functional performance. The corporate goals include advancing the Company s clinical programs for MultiStem, executing against the established operating plan and capital acquisition objectives, and advancement of strategic partnership and program activities. There is no formally adopted plan document for the Plan.

Title	Target Bonus	Weighting on Corporate Goals
Chief Executive Officer	60%	100%
President & Chief Operating Officer	45%	80%

Executive Vice President & Chief Scientific Officer	45%	80%
Senior Vice President of Finance	35%	60%

A summary of the plan is attached to this annual report on Form 10-K as Exhibit 10.50 and is hereby incorporated herein by reference thereto.

Table of Contents

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item is incorporated by reference to the Proxy Statement with respect to the 2016 Annual Meeting of Stockholders.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item is incorporated by reference to the Proxy Statement with respect to the 2016 Annual Meeting of Stockholders.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED SHAREHOLDER MATTERS

The information required by this item is incorporated by reference to the Proxy Statement with respect to the 2016 Annual Meeting of Stockholders.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item is incorporated by reference to the Proxy Statement with respect to the 2016 Annual Meeting of Stockholders.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item is incorporated by reference to the Proxy Statement with respect to the 2016 Annual Meeting of Stockholders.

Table of Contents

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a)(1) Financial Statements:

The following consolidated financial statements of Athersys, Inc. are included in Item 8:

Reports of Independent Registered Public Accounting Firm

Consolidated Balance Sheets as of December 31, 2015 and 2014

Consolidated Statements of Operations and Comprehensive Loss for each of the years ended December 31, 2015, 2014 and 2013

Consolidated Statements of Stockholders Equity for each of the years ended December 31, 2015, 2014 and 2013

Consolidated Statements of Cash Flow for each of the years ended December 31, 2015, 2014 and 2013

Notes to Consolidated Financial Statements

(a)(2) Financial Statement Schedules:

The following financial statement schedule of Athersys, Inc. is included:

Schedule II Valuation and Qualifying Accounts

(In thousands)	Balance at Beginning of Year	Additions	Deductions	Balance at End of Year
Year Ended December 31, 2015				
Deducted from asset accounts:				
Allowance for doubtful accounts- note receivable	$ 352	$ 11	$	$ 363(A)
Tax valuation allowances	$ 41,852	$ 7,069	$	$ 48,921
Total 2015	**$ 42,204**	**$ 7,080**	**$**	**$ 49,284**
Year Ended December 31, 2014				
Deducted from asset accounts:				
Allowance for doubtful accounts- note receivable	$ 341	$ 11	$	$ 352(A)
Tax valuation allowances	$ 26,042	$ 15,810	$	$ 41,852

Total 2014	**$ 26,383**	**$ 15,812**	**$**	**$ 42,204**
Year Ended December 31, 2013				
Deducted from asset accounts:				
Allowance for doubtful accounts- note receivable	$ 330	$ 11	$	$ 341(A)
Tax valuation allowances	$ 34,222	$ 10,126	$ 18,306(B)	$ 26,042
Total 2013	**$ 34,552**	**$ 10,137**	**$ 18,306**	**$ 26,383**

(A) Reserve on note receivable; fully-reserved.
(B) Substantially all of our deferred tax assets are offset by valuation allowances.

Table of Contents

All other schedules for which provision is made in the applicable accounting regulation of the SEC are not required under the related instructions or are inapplicable and, therefore, omitted.

(a)(3) Exhibits.

Exhibit No.	Exhibit Description
3.1	Certificate of Incorporation of Athersys, Inc., as amended as of June 28, 2013 (incorporated herein by reference to Exhibit 3.1 to the registrant s Quarterly Report on Form 10-Q (Commission No. 000-52108) filed with the Commission on August 13, 2013)
3.2	Bylaws of Athersys, Inc., as amended as of October 30, 2007 (incorporated herein by reference to Exhibit 3.1 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on October 31, 2007)
4.1	Form of Warrant (incorporated herein by reference to Exhibit 4.1 to the registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on March 15, 2012)
4.5	Form of Warrant (incorporated herein by reference to Exhibit 4.1 to the registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on January 13, 2014)
10.1*	Research Collaboration and License Agreement, dated as of December 8, 2000, by and between Athersys, Inc. and Bristol-Myers Squibb Company (incorporated herein by reference to Exhibit 10.1 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.2*	Cell Line Collaboration and License Agreement, dated as of July 1, 2002, by and between Athersys, Inc. and Bristol-Myers Squibb Company (incorporated herein by reference to Exhibit 10.2 to the registrant s Current Report on Form 8-K/A (Commission No. 000-52108) filed with the Commission on September 27, 2007)
10.3	Amendment No. 1 to Cell Line Collaboration and License Agreement, dated as of January 1, 2006, by and between Athersys, Inc. and Bristol-Myers Squibb Company (incorporated herein by reference to Exhibit 10.36 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.4*	Extended Collaboration and License Agreement, dated as of January 1, 2006, by and between Athersys, Inc. and Bristol-Myers Squibb Company (incorporated herein by reference to Exhibit 10.3 to the registrant s Current Report on Form 8-K/A (Commission No. 000-52108) filed with the Commission on September 27, 2007)
10.5	Amendment dated as of March 31, 2009 to the Extended Collaboration and License Agreement, by and between Athersys, Inc. and Bristol-Myers Squibb Company effective January 1, 2006 (incorporated herein by reference to Exhibit 10.1 to the registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on April 9, 2009)
10.6	Amendment No. 3 to Extended Collaboration and License Agreement, dated January 31, 2012, by and between ABT Holding Company and Bristol-Myers Squibb Company (incorporated by reference to Exhibit 10.3 to the registrant s Quarterly Report on Form 10-Q (Commission No. 001-33876) filed with the Commission on May 14, 2012)
10.7	

	Amended and Restated Registration Rights Agreement, dated as of April 28, 2000, by and among Athersys, Inc. and the stockholders of Athersys, Inc. parties thereto (incorporated herein by reference to Exhibit 10.6 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.8	Amendment No. 1 to Athersys, Inc. Amended and Restated Registration Rights Agreement, dated as of January 29, 2002, by and among Athersys, Inc., the New Stockholders, the Investors, Biotech and the Stockholders (each as defined in the Amended and Restated Registration Rights Agreement, dated as April 28, 2000, by and among Athersys, Inc. and the stockholders of Athersys, Inc. parties thereto) (incorporated herein by reference to Exhibit 10.7 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.9	Amendment No. 2 to Athersys, Inc. Amended and Restated Registration Rights Agreement, dated as of November 19, 2002, by and among Athersys, Inc., the New Stockholders, the Investors, Biotech and the Stockholders (each as defined in the Amended and Restated Registration Rights Agreement, dated as April 28, 2000, as amended, by and among Athersys, Inc. and the stockholders of Athersys, Inc. parties thereto) (incorporated herein by reference to Exhibit 10.8 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)

Table of Contents

10.10	Amendment No. 3 to Amended and Restated Registration Rights Agreement, dated as of May 15, 2007, by and among Athersys, Inc. and the Existing Stockholders (as defined therein) (incorporated herein by reference to Exhibit 10.9 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.11	Amendment No. 4 to Amended and Restated Registration Rights Agreement, dated as of March 8, 2010, by and among Athersys, Inc. and the Existing Stockholders (as defined therein) (incorporated herein by reference to Exhibit 10.45 to the registrant s Annual Report on Form 10-K for the year ended December 31, 2009 (Commission No. 001-33876) filed with the Commission on March 11, 2010)
10.12	Athersys, Inc. Equity Incentive Compensation Plan (incorporated herein by reference to Exhibit 10.11 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.13	Amended and Restated Employment Agreement, dated as of December 1, 1998 but effective as of April 1, 1998, by and between Athersys, Inc. and Dr. Gil Van Bokkelen (incorporated herein by reference to Exhibit 10.14 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.14	Amendment No. 1 to Amended and Restated Employment Agreement, dated as of May 31, 2007, by and between Advanced Biotherapeutics, Inc. and Gil Van Bokkelen (incorporated herein by reference to Exhibit 10.15 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.15	Non-Competition and Confidentiality Agreement, dated as of December 1, 1998, by and between Athersys, Inc. and Dr. Gil Van Bokkelen (incorporated herein by reference to Exhibit 10.16 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.16	Amended and Restated Employment Agreement, dated as of December 1, 1998 but effective as of April 1, 1998, by and between Athersys, Inc. and Dr. John J. Harrington (incorporated herein by reference to Exhibit 10.17 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.17	Amendment No. 1 to Amended and Restated Employment Agreement, dated as of May 31, 2007, by and between Advanced Biotherapeutics, Inc. and John Harrington (incorporated herein by reference to Exhibit 10.18 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.18	Non-Competition and Confidentiality Agreement, dated as of December 1, 1998, by and between Athersys, Inc. and Dr. John J. Harrington (incorporated herein by reference to Exhibit 10.19 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.19	Employment Agreement, dated as of May 22, 1998, by and between Athersys, Inc. and Laura K. Campbell (incorporated herein by reference to Exhibit 10.20 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.20	Amendment No. 1 to Employment Agreement, dated as of May 31, 2007, by and between Advanced Biotherapeutics, Inc. and Laura Campbell (incorporated herein by reference to Exhibit 10.21 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.21	Employment Agreement, dated as of January 1, 2004, by and between Advanced Biotherapeutics, Inc. and William Lehmann (incorporated herein by reference to Exhibit 10.28 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)

10.22 Amendment No. 1 to Employment Agreement, dated as of May 31, 2007, by and between Advanced Biotherapeutics, Inc. and William Lehmann (incorporated herein by reference to Exhibit 10.29 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)

110.23 Amendment No. 2 to Employment Agreement, dated as of January 24, 2014, by and between Advanced Biotherapeutics, Inc. and William Lehmann (incorporated herein by reference to Exhibit 10.24 to the registrant s Annual Report on Form 10-K for the year ended December 31, 2013 (Commission No. 001-33876) filed with the Commission on March 13, 2014)

10.24 Non-Competition and Confidentiality Agreement, dated as of September 10, 2001, by and among Athersys, Inc., Advanced Biotherapeutics, Inc. and William Lehmann (incorporated herein by reference to Exhibit 10.30 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)

10.25 Consulting Agreement, dated as of September 1, 2015, by and between Advanced Biotherapeutics, Inc. and Robert Deans (incorporated herein by reference to Exhibit 10.1 to the registrant s Quarterly Report on Form 10-Q (Commission No. 001-33876) filed with the Commission on November 5, 2015)

Table of Contents

10.26	Form Incentive Agreement by and between Advanced Biotherapeutics, Inc. and named executive officers, and acknowledged by Athersys, Inc. and ReGenesys, LLC (incorporated herein by reference to Exhibit 10.31 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.27	Form Amendment No. 1 to Incentive Agreement by and between Advanced Biotherapeutics, Inc. and named executive officers, and acknowledged by Athersys, Inc. and ReGenesys, LLC (incorporated herein by reference to Exhibit 10.32 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.28	Form Amendment No. 2 to Incentive Agreement by and between Advanced Biotherapeutics, Inc. and named executive officers, and acknowledged by Athersys, Inc. and ReGenesys, LLC (incorporated herein by reference to Exhibit 10.2 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 20, 2013)
10.29*	Exclusive License Agreement, dated as of May 17, 2002, by and between Regents of the University of Minnesota and MCL LLC, assumed by ReGenesys, LLC through operation of merger on November 4, 2003 (incorporated herein by reference to Exhibit 10.34 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.30	Form Indemnification Agreement for Directors, Officers and Directors and Officers (incorporated herein by reference to Exhibit 10.1 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on August 6, 2007)
10.31*	License and Technical Assistance Agreement, dated as of September 10, 2010, between ABT Holding Company and RTI (incorporated herein by reference to Exhibit 10.1 to the registrant s Quarterly Report on Form 10-Q (Commission No. 001-33876) filed with the Commission on November 8, 2010)
10.32	Form of Incentive Stock Option Agreement (incorporated herein by reference to Exhibit 10.47 to the registrant s Annual Report on Form 10-K for the year ended December 31, 2010 (Commission No. 001-33876) filed with the Commission on March 25, 2011)
10.33	Form of Nonqualified Stock Option Agreement for Non-Employee Directors (incorporated herein by reference to Exhibit 10.48 to the registrant s Annual Report on Form 10-K for the year ended December 31, 2010 (Commission No. 001-33876) filed with the Commission on March 25, 2011)
10.34	Athersys, Inc. Amended and Restated 2007 Long-Term Incentive Plan (Amended and Restated Effective June 18, 2013) (incorporated herein by reference to Exhibit 10.1 to registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on June 18, 2013
10.35	Form of Nonqualified Stock Option Agreement for Non-Employee Directors pursuant to the Athersys, Inc. Amended and Restated 2007 Long-Term Incentive Plan (Amended and Restated Effective June 16, 2011) (incorporated herein by reference to Exhibit 10.49 to the registrant s Quarterly Report on Form 10-Q (Commission No. 001-33876) filed with the Commission on May 6, 2011)
10.36	Form of Restricted Stock Unit Agreement (incorporated herein by reference to Exhibit 10.2 to the registrant s Quarterly Report on Form 10-Q (Commission No. 001-33876) filed with the Commission on August 10, 2011)
10.37	Form of Restricted Stock Unit Agreement (incorporated herein by reference to Exhibit 10.2 to the registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on June 20, 2013)
10.38	

	First Amendment to License and Technical Assistance Agreement, dated September 17, 2012, by and between ABT Holding, Inc. and RTI Biologics, Inc. (incorporated herein by reference to Exhibit 10.52 to the registrant s Registration Statement on Form S-1/A (Registration No. 001-33876)
10.39	Summary of Athersys, Inc. 2015 Cash Bonus Incentive Plan (incorporated herein by reference to Exhibit 10.50 to the registrant s Annual Report on Form 10-K for the year ended December 31, 2014 (Commission No. 001-33876) filed with the Commission on March 12, 2015)
10.40	Common Stock Purchase Agreement, dated as of December 17, 2015, by and between Athersys, Inc. and Aspire Capital Fund LLC (incorporated herein by reference to Exhibit 10.2 to the registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on December 17, 2015)
10.41	Registration Rights Agreement, dated as of December 17, 2015, by and between Athersys, Inc. and Aspire Capital Fund LLC (incorporated herein by reference to Exhibit 10.2 to the registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on December 17, 2015)
10.42	Summary of Athersys, Inc. 2016 Cash Bonus Incentive Plan
21.1	List of Subsidiaries

Table of Contents

23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm
24.1	Power of Attorney
31.1	Certification of Gil Van Bokkelen, Chairman and Chief Executive Officer, pursuant to SEC Rules 13a-14(a) and 15d-14(a) adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Laura K. Campbell, Senior Vice President of Finance, pursuant to SEC Rules 13a-14(a) and 15d-14(a) adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Gil Van Bokkelen, Chairman and Chief Executive Officer, and Laura Campbell, Senior Vice President of Finance, pursuant to 18 U.S.C. Section 1350, adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Confidential treatment requested as to certain portions, which portions have been filed separately with the SEC Indicates management contract or compensatory plan, contract or arrangement in which one or more directors or executive officers of the registrant may be participants

Table of Contents

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Cleveland, State of Ohio, on March 10, 2016.

ATHERSYS, INC.

By: /s/ Gil Van Bokkelen
Gil Van Bokkelen
Title: Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

Signature	Title	Date
/s/ Gil Van Bokkelen Gil Van Bokkelen	Chief Executive Officer and Chairman of the Board of Directors (Principal Executive Officer)	March 10 , 2016
/s/ Laura K. Campbell Laura K. Campbell	Senior Vice President of Finance (Principal Financial Officer and Principal Accounting Officer)	March 10 , 2016
* John J. Harrington	Executive Vice President, Chief Scientific Officer and Director	March 10 , 2016
* Lorin J. Randall	Director	March 10 , 2016
* Kenneth H. Traub	Director	March 10 , 2016
* Jack L. Wyszomierski	Director	March 10 , 2016
* Lee E. Babiss	Director	March 10 , 2016
* Ismail Kola	Director	March 10 , 2016

* Gil Van Bokkelen, by signing his name hereto, does hereby sign this Form 10-K on behalf of each of the above named and designated directors of the Company pursuant to Powers of Attorney executed by such persons and filed with the Securities and Exchange Commission.

By: /s/ Gil Van Bokkelen
Gil Van Bokkelen
Attorney-in-fact

Table of Contents

EXHIBIT INDEX

Exhibit No.	Exhibit Description
3.1	Certificate of Incorporation of Athersys, Inc., as amended as of June 28, 2013 (incorporated herein by reference to Exhibit 3.1 to the registrant s Quarterly Report on Form 10-Q (Commission No. 000-52108) filed with the Commission on August 13, 2013)
3.2	Bylaws of Athersys, Inc., as amended as of October 30, 2007 (incorporated herein by reference to Exhibit 3.1 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on October 31, 2007)
4.1	Form of Warrant (incorporated herein by reference to Exhibit 4.1 to the registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on March 15, 2012)
4.5	Form of Warrant (incorporated herein by reference to Exhibit 4.1 to the registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on January 13, 2014)
10.1*	Research Collaboration and License Agreement, dated as of December 8, 2000, by and between Athersys, Inc. and Bristol-Myers Squibb Company (incorporated herein by reference to Exhibit 10.1 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.2*	Cell Line Collaboration and License Agreement, dated as of July 1, 2002, by and between Athersys, Inc. and Bristol-Myers Squibb Company (incorporated herein by reference to Exhibit 10.2 to the registrant s Current Report on Form 8-K/A (Commission No. 000-52108) filed with the Commission on September 27, 2007)
10.3	Amendment No. 1 to Cell Line Collaboration and License Agreement, dated as of January 1, 2006, by and between Athersys, Inc. and Bristol-Myers Squibb Company (incorporated herein by reference to Exhibit 10.36 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.4*	Extended Collaboration and License Agreement, dated as of January 1, 2006, by and between Athersys, Inc. and Bristol-Myers Squibb Company (incorporated herein by reference to Exhibit 10.3 to the registrant s Current Report on Form 8-K/A (Commission No. 000-52108) filed with the Commission on September 27, 2007)
10.5	Amendment dated as of March 31, 2009 to the Extended Collaboration and License Agreement, by and between Athersys, Inc. and Bristol-Myers Squibb Company effective January 1, 2006 (incorporated herein by reference to Exhibit 10.1 to the registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on April 9, 2009)
10.6	Amendment No. 3 to Extended Collaboration and License Agreement, dated January 31, 2012, by and between ABT Holding Company and Bristol-Myers Squibb Company (incorporated by reference to Exhibit 10.3 to the registrant s Quarterly Report on Form 10-Q (Commission No. 001-33876) filed with the Commission on May 14, 2012)
10.7	Amended and Restated Registration Rights Agreement, dated as of April 28, 2000, by and among Athersys, Inc. and the stockholders of Athersys, Inc. parties thereto (incorporated herein by reference to Exhibit 10.6 to the registrant s Current Report on Form 8-K (Commission No.

	000-52108) filed with the Commission on June 14, 2007)
10.8	Amendment No. 1 to Athersys, Inc. Amended and Restated Registration Rights Agreement, dated as of January 29, 2002, by and among Athersys, Inc., the New Stockholders, the Investors, Biotech and the Stockholders (each as defined in the Amended and Restated Registration Rights Agreement, dated as April 28, 2000, by and among Athersys, Inc. and the stockholders of Athersys, Inc. parties thereto) (incorporated herein by reference to Exhibit 10.7 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.9	Amendment No. 2 to Athersys, Inc. Amended and Restated Registration Rights Agreement, dated as of November 19, 2002, by and among Athersys, Inc., the New Stockholders, the Investors, Biotech and the Stockholders (each as defined in the Amended and Restated Registration Rights Agreement, dated as April 28, 2000, as amended, by and among Athersys, Inc. and the stockholders of Athersys, Inc. parties thereto) (incorporated herein by reference to Exhibit 10.8 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.10	Amendment No. 3 to Amended and Restated Registration Rights Agreement, dated as of May 15, 2007, by and among Athersys, Inc. and the Existing Stockholders (as defined therein) (incorporated herein by reference to Exhibit 10.9 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)

Table of Contents

10.11	Amendment No. 4 to Amended and Restated Registration Rights Agreement, dated as of March 8, 2010, by and among Athersys, Inc. and the Existing Stockholders (as defined therein) (incorporated herein by reference to Exhibit 10.45 to the registrant s Annual Report on Form 10-K for the year ended December 31, 2009 (Commission No. 001-33876) filed with the Commission on March 11, 2010)
10.12	Athersys, Inc. Equity Incentive Compensation Plan (incorporated herein by reference to Exhibit 10.11 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.13	Amended and Restated Employment Agreement, dated as of December 1, 1998 but effective as of April 1, 1998, by and between Athersys, Inc. and Dr. Gil Van Bokkelen (incorporated herein by reference to Exhibit 10.14 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.14	Amendment No. 1 to Amended and Restated Employment Agreement, dated as of May 31, 2007, by and between Advanced Biotherapeutics, Inc. and Gil Van Bokkelen (incorporated herein by reference to Exhibit 10.15 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.15	Non-Competition and Confidentiality Agreement, dated as of December 1, 1998, by and between Athersys, Inc. and Dr. Gil Van Bokkelen (incorporated herein by reference to Exhibit 10.16 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.16	Amended and Restated Employment Agreement, dated as of December 1, 1998 but effective as of April 1, 1998, by and between Athersys, Inc. and Dr. John J. Harrington (incorporated herein by reference to Exhibit 10.17 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.17	Amendment No. 1 to Amended and Restated Employment Agreement, dated as of May 31, 2007, by and between Advanced Biotherapeutics, Inc. and John Harrington (incorporated herein by reference to Exhibit 10.18 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.18	Non-Competition and Confidentiality Agreement, dated as of December 1, 1998, by and between Athersys, Inc. and Dr. John J. Harrington (incorporated herein by reference to Exhibit 10.19 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.19	Employment Agreement, dated as of May 22, 1998, by and between Athersys, Inc. and Laura K. Campbell (incorporated herein by reference to Exhibit 10.20 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.20	Amendment No. 1 to Employment Agreement, dated as of May 31, 2007, by and between Advanced Biotherapeutics, Inc. and Laura Campbell (incorporated herein by reference to Exhibit 10.21 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.21	Employment Agreement, dated as of January 1, 2004, by and between Advanced Biotherapeutics, Inc. and William Lehmann (incorporated herein by reference to Exhibit 10.28 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.22	Amendment No. 1 to Employment Agreement, dated as of May 31, 2007, by and between Advanced Biotherapeutics, Inc. and William Lehmann (incorporated herein by reference to Exhibit 10.29 to the

registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)

10.23 Amendment No. 2 to Employment Agreement, dated as of January 24, 2014, by and between Advanced Biotherapeutics, Inc. and William Lehmann (incorporated herein by reference to Exhibit 10.24 to the registrant s Annual Report on Form 10-K for the year ended December 31, 2013 (Commission No. 001-33876) filed with the Commission on March 13, 2014)

10.24 Non-Competition and Confidentiality Agreement, dated as of September 10, 2001, by and among Athersys, Inc., Advanced Biotherapeutics, Inc. and William Lehmann (incorporated herein by reference to Exhibit 10.30 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)

10.25 Consulting Agreement, dated as of September 1, 2015, by and between Advanced Biotherapeutics, Inc. and Robert Deans (incorporated herein by reference to Exhibit 10.1 to the registrant s Quarterly Report on Form 10-Q (Commission No. 001-33876) filed with the Commission on November 5, 2015)

10.26 Form Incentive Agreement by and between Advanced Biotherapeutics, Inc. and named executive officers, and acknowledged by Athersys, Inc. and ReGenesys, LLC (incorporated herein by reference to Exhibit 10.31 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)

Table of Contents

10.27	Form Amendment No. 1 to Incentive Agreement by and between Advanced Biotherapeutics, Inc. and named executive officers, and acknowledged by Athersys, Inc. and ReGenesys, LLC (incorporated herein by reference to Exhibit 10.32 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.28	Form Amendment No. 2 to Incentive Agreement by and between Advanced Biotherapeutics, Inc. and named executive officers, and acknowledged by Athersys, Inc. and ReGenesys, LLC (incorporated herein by reference to Exhibit 10.2 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 20, 2013)
10.29*	Exclusive License Agreement, dated as of May 17, 2002, by and between Regents of the University of Minnesota and MCL LLC, assumed by ReGenesys, LLC through operation of merger on November 4, 2003 (incorporated herein by reference to Exhibit 10.34 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on June 14, 2007)
10.30	Form Indemnification Agreement for Directors, Officers and Directors and Officers (incorporated herein by reference to Exhibit 10.1 to the registrant s Current Report on Form 8-K (Commission No. 000-52108) filed with the Commission on August 6, 2007)
10.31*	License and Technical Assistance Agreement, dated as of September 10, 2010, between ABT Holding Company and RTI (incorporated herein by reference to Exhibit 10.1 to the registrant s Quarterly Report on Form 10-Q (Commission No. 001-33876) filed with the Commission on November 8, 2010)
10.32	Form of Incentive Stock Option Agreement (incorporated herein by reference to Exhibit 10.47 to the registrant s Annual Report on Form 10-K for the year ended December 31, 2010 (Commission No. 001-33876) filed with the Commission on March 25, 2011)
10.33	Form of Nonqualified Stock Option Agreement for Non-Employee Directors (incorporated herein by reference to Exhibit 10.48 to the registrant s Annual Report on Form 10-K for the year ended December 31, 2010 (Commission No. 001-33876) filed with the Commission on March 25, 2011)
10.34	Athersys, Inc. Amended and Restated 2007 Long-Term Incentive Plan (Amended and Restated Effective June 18, 2013) (incorporated herein by reference to Exhibit 10.1 to registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on June 18, 2013
10.35	Form of Nonqualified Stock Option Agreement for Non-Employee Directors pursuant to the Athersys, Inc. Amended and Restated 2007 Long-Term Incentive Plan (Amended and Restated Effective June 16, 2011) (incorporated herein by reference to Exhibit 10.49 to the registrant s Quarterly Report on Form 10-Q (Commission No. 001-33876) filed with the Commission on May 6, 2011)
10.36	Form of Restricted Stock Unit Agreement (incorporated herein by reference to Exhibit 10.2 to the registrant s Quarterly Report on Form 10-Q (Commission No. 001-33876) filed with the Commission on August 10, 2011)
10.37	Form of Restricted Stock Unit Agreement (incorporated herein by reference to Exhibit 10.2 to the registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on June 20, 2013)
10.38	First Amendment to License and Technical Assistance Agreement, dated September 17, 2012, by and between ABT Holding, Inc. and RTI Biologics, Inc. (incorporated herein by reference to Exhibit 10.52 to the registrant s Registration Statement on Form S-1/A (Registration No. 001-33876)
10.39	Summary of Athersys, Inc. 2015 Cash Bonus Incentive Plan (incorporated herein by reference to Exhibit 10.50 to the registrant s Annual Report on Form 10-K for the year ended December 31, 2014

	(Commission No. 001-33876) filed with the Commission on March 12, 2015)
10.40	Common Stock Purchase Agreement, dated as of December 17, 2015, by and between Athersys, Inc. and Aspire Capital Fund LLC (incorporated herein by reference to Exhibit 10.2 to the registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on December 17, 2015)
10.41	Registration Rights Agreement, dated as of December 17, 2015, by and between Athersys, Inc. and Aspire Capital Fund LLC (incorporated herein by reference to Exhibit 10.2 to the registrant s Current Report on Form 8-K (Commission No. 001-33876) filed with the Commission on December 17, 2015)
10.42	Summary of Athersys, Inc. 2016 Cash Bonus Incentive Plan
21.1	List of Subsidiaries
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm

Table of Contents

24.1	Power of Attorney
31.1	Certification of Gil Van Bokkelen, Chairman and Chief Executive Officer, pursuant to SEC Rules 13a-14(a) and 15d-14(a) adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Laura K. Campbell, Senior Vice President of Finance, pursuant to SEC Rules 13a-14(a) and 15d-14(a) adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Gil Van Bokkelen, Chairman and Chief Executive Officer, and Laura Campbell, Senior Vice President of Finance, pursuant to 18 U.S.C. Section 1350, adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Confidential treatment requested as to certain portions, which portions have been filed separately with the SEC Indicates management contract or compensatory plan, contract or arrangement in which one or more directors or executive officers of the registrant may be participants