Applied Genetic Technologies Corporation

2014

ANNUAL REPORT

Dear Shareholder:

The past 12 months have been a productive time for AGTC, with respect to both the evolution of the company and our quest to become the world leader in developing and commercializing gene therapy treatments for eye diseases. Our financial, business, scientific and clinical achievements over the past year have enhanced our ability to provide a better life for patients with these diseases, several of which have no currently available treatments.

On March 27, 2014, we became a public company with the pricing of our initial public offering. The funds generated by the IPO, together with funds from a follow-on offering at the end of July, place us on solid financial footing and we are actively working to advance our product candidates.

With a highly specialized team of physicians and researchers, we use cutting-edge techniques to develop treatments for patients that have diseases caused by genetic mutations. We use gene therapy to insert a gene into the necessary cells such that the patient's own body can produce the protein required to treat the underlying illness. We believe that by effectively correcting the underlying genetic defect, gene therapy can provide transformative disease modifying effects—potentially with life-long clinical benefits based on a one-time therapeutic administration.

We are currently focused on developing gene therapies for four devastating and rare eye diseases. In early 2015, we expect to enter the clinic with our product candidate for X-linked retinoschisis (XLRS), an inherited form of retinal degeneration that affects around 35,000 boys and men in the U.S. and Europe. Boys with the condition present with very poor vision by school age. XLRS often leads to serious complications such as vitreous hemorrhage or retinal detachment. We expect to see initial clinical data from our Phase 1/2 study in mid-2015.

In parallel, we are working diligently to advance our first program for achromatopsia (ACHM), an inherited condition associated with visual acuity loss, extreme light sensitivity, and total loss of color discrimination. We expect this program to enter the clinic around the middle of 2015, and anticipate reporting initial clinical data from our Phase 1/2 study in the second half of 2015. We expect development of our second ACHM product candidate to follow shortly behind this timeline.

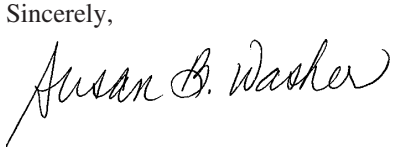
We have also begun preclinical studies for our product candidate addressing X-linked retinitis pigmentosa, a disease characterized by progressive degeneration of the retina, which can lead to total blindness in adult men. We expect this program to enter the clinic around the beginning of 2017 and anticipate reporting initial clinical data from our Phase 1/2 study in the second half of 2017.

Finally, we are utilizing our previous experience in wet age-related macular degeneration to evaluate potential product candidates that may be synergistic with existing therapies. We expect to place a new product candidate for this large market opportunity into formal preclinical development during 2015.

We believe our proprietary gene therapy platform and our expertise in viral vector design, delivery and manufacturing will facilitate the rapid clinical advancement and regulatory approval of our product candidates and enhance their commercial and therapeutic potential. Everyone at AGTC recognizes the significant medical need that patients with eye diseases face each day, and we are committed to innovatively developing new therapies that improve patient care and outcomes.

I would like to take this opportunity to recognize all of our employees for their outstanding contributions during the year, and to thank our shareholders for their support. This is a very exciting time for AGTC and we look forward to updating you on our continued progress.

Sincerely,



Susan B. Washer
President and Chief Executive Officer
Applied Genetic Technologies Corporation

October 16, 2014

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-K

(Mark One)

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

For the Fiscal Year Ended June 30, 2014

OR

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

Commission File Number: 001-36370

APPLIED GENETIC TECHNOLOGIES CORPORATION

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**59-3553710**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**

11801 Research Drive
Suite D
Alachua, Florida 32615
(Address of Principal Executive Offices, Including Zip Code)

(386) 462-2204
(Registrant's Telephone Number, Including Area Code)

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

Title of class	**Name of exchange on which registered**
Common Stock, $.001 par value	**NASDAQ Global Market**

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically 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 ☒ No ☐

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

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

Large accelerated filer ☐	Accelerated filer ☐
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 Exchange Act). Yes ☐ No ☒

The aggregate market value of voting stock held by non-affiliates of the registrant on March 27, 2014, based on the closing price for shares of the registrant's common stock as reported by The NASDAQ Global Market, was approximately $63.9 million. The registrant has elected to use March 27, 2014 as the calculation date, which was the initial trading date of the registrant's common stock on The NASDAQ Global Market, because on December 31, 2013 (the last business day of the registrant's most recently completed second fiscal quarter), the registrant was a privately-held company.

As of September 19, 2014, a total of 16,387,711 shares of the registrant's common stock, $0.001 par value per share, were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive Proxy Statement for the registrant's Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission on or before October 28, 2014 are incorporated by reference in Part III of this Annual Report on Form 10-K.

APPLIED GENETIC TECHNOLOGIES CORPORATION
ANNUAL REPORT ON FORM 10-K
FOR FISCAL YEAR ENDED JUNE 30, 2014

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K, including the sections entitled "Business," "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," contains forward-looking statements. These statements may relate to, but are not limited to, expectations of our future results of operations, business strategies and operations, financing plans, potential growth opportunities, potential market opportunities and the effects of competition, as well as assumptions relating to the foregoing. Forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified. These risks and other factors include, but are not limited to, those listed under "Risk Factors." In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "could," "expect," "plan," "anticipate," "believe," "estimate," "predict," "intend," "potential," "might," "would," "continue" or the negative of these terms or other comparable terminology. These statements are only predictions. Actual events or results may differ materially.

There may be events in the future that we are not able to accurately predict or control and that may cause our actual results to differ materially from the expectations we describe in our forward-looking statements. Except as required by applicable law, including the securities laws of the United States and the rules and regulations of the SEC, we do not plan to publicly update or revise any forward-looking statements contained in this Annual Report on Form 10-K after we file it, whether as a result of any new information, future events or otherwise. Before you invest in our common stock, you should be aware that the occurrence of any of the events described in the "Risk Factors" section and elsewhere in this Annual Report on Form 10-K could harm our business, prospects, operating results and financial condition. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements.

Except as otherwise indicated, all share and per share information referenced in this report has been adjusted to reflect the 1-for-35 reverse split with respect to our common stock effected on March 4, 2014.

As used herein, except as otherwise indicated by context, references to "we," "us," "our," or the "Company" refer to Applied Genetic Technologies Corporation.

PART I

ITEM 1. BUSINESS

Overview

We are a clinical-stage biotechnology company developing gene therapy products designed to transform the lives of patients with severe diseases in ophthalmology and lung disease. We believe our proprietary gene therapy platform and our expertise in viral vector selection and design, delivery and manufacturing will facilitate the rapid clinical advancement and regulatory approval of our product candidates and enhance their commercial and therapeutic potential.

Our lead product candidates are treatments for X-linked retinoschisis, or XLRS, achromatopsia, or ACHM, and X-linked retinitis pigmentosa, or XLRP. These orphan diseases of the eye are caused by mutations in single genes, significantly affect visual function and currently lack effective medical treatments. XLRS is characterized by abnormal splitting of the layers of the retina, resulting in poor visual acuity in young boys, which can progress to legal blindness in adult men. For our XLRS product candidate, we expect to file an Investigational New Drug Application, or IND, with the United States Food and Drug Administration, or FDA, in late 2014, and thereafter to initiate Phase 1/2 clinical trials in the United States, with initial clinical data expected in mid-2015. ACHM is characterized by the absence of cone photoreceptor function, resulting in extremely poor visual acuity, light sensitivity, day blindness and complete loss of color discrimination. We expect to file an IND for our first

ACHM product candidate in early 2015, and thereafter to initiate Phase 1/2 clinical trials in the United States, with clinical data expected in late 2015. We expect development of our second ACHM product candidate to follow shortly behind this timeline. We have also begun preclinical studies for our product candidate addressing XLRP, a disease characterized by progressive degeneration of the retina, which can lead to total blindness in adult men. For our XLRP product candidate, we expect to file an IND in late 2016, and thereafter to initiate Phase 1/2 clinical trials in the United States, with clinical data expected in mid-2017. Finally, we are utilizing our previous experience in wet AMD to evaluate potential product candidates that may be synergistic with existing therapies. We expect to place a new product candidate for this large market opportunity into development during 2015.

Our gene therapy platform is based on viral vectors that utilize a modified version of the non-replicating adeno-associated virus, or AAV, to deliver a functional copy of a gene to the patient's own cells through a variety of delivery methods, and we have obtained preliminary indications of safety and efficacy in clinical trials. These vectors deliver the functional genetic material to the nucleus of the cell, providing safe, sustained expression of the therapeutic protein to treat the disease without modifying the existing DNA of the patient.

We have developed extensive internal expertise in viral vector selection and design, delivery and manufacturing that is supported by a broad intellectual property estate. Our proprietary AAV vector manufacturing process is both reproducible and scalable. We have assembled an experienced management team and a world-class group of scientific advisors, and we have strong collaborative relationships with key opinion leaders in the field of gene therapy. Combining these attributes, we have built a gene therapy platform that we believe will provide patients with treatments that may have life-long clinical benefits, potentially based on a one-time therapeutic administration.

We and our scientific collaborators have generated human proof-of-concept data that we believe provide preliminary evidence of the safety and efficacy of our gene therapy approach through preclinical studies and clinical trials in two other eye diseases: Leber congenital amaurosis (type 2) caused by mutations in the RPE65 gene, or LCA2, a form of early onset retinal degeneration, and the wet form of age-related macular degeneration, or wet AMD, an eye disease affecting a large patient population.

Our strategy is to leverage the capabilities of our gene therapy platform to address diseases in ophthalmology where there is significant unmet medical need. We have concentrated initially on underserved orphan indications that are small enough to allow for clinical trials on a manageable scale but prevalent by orphan disease standards and that provide markets that we believe we can serve using a small, targeted commercial infrastructure. The eye diseases we are targeting are well understood with highly predictive animal models and clearly defined clinical endpoints, characteristics that we believe will facilitate clinical development and regulatory approval of our product candidates. We believe our initial focus on these orphan eye diseases will provide us with an attractive business opportunity and position us to drive the advancement of gene therapy technology. We plan to leverage our experience in orphan ophthalmology to develop new treatments for eye diseases with larger patient populations, such as wet AMD. We will also evaluate opportunities to extend the commercial application of our gene therapy platform in other underserved indications beyond ophthalmology.

Our AAV vectors can be used to introduce functional genes into many different cell types by a variety of delivery methods and can carry genes of up to 4,000 base pairs in length, a payload capacity sufficient to accommodate more than 90% of the individual genes in the human genome. We have developed a proprietary manufacturing process that we believe will enable our vectors to be manufactured reliably on a commercial scale. Our gene therapy platform therefore has the potential to provide treatments for many other diseases outside of our current focus on orphan ophthalmology, including those with large dosing requirements or in larger markets. We have already conducted preclinical proof-of-concept studies and Phase 1 and Phase 2 clinical trials of a treatment for alpha-1 antitrypsin deficiency, or AAT deficiency, an inherited orphan lung disease. We expect to explore other therapeutic areas selectively, either alone or through partnerships.

The chart below summarizes our current gene therapy programs:

Program	Estimated US/EU patient population	Proof-of-concept	IND-enabling	Clinical Development	Key Milestones
LEAD PROGRAMS IN OPHTHALMOLOGY					
XLRS	35,000	Orphan designation US & EU			Initial clinical data mid-2015
ACHM	(B3) 13,500	Orphan designation US & EU			Initial clinical data late 2015
	(A3) 7,000				IND-enabling studies second half 2015
XLRP	20,000				Additional preclinical studies 2014-2015
Wet AMD	3,200,000				Target announcement late 2015
New eye indications	various				Initial preclinical studies 2015
NON-OPHTHALMOLOGY PROGRAMS					
AAT deficiency (lung disease)	118,000	Orphan designation US & EU			Phase 2b data mid-2015

Our initial focus on orphan ophthalmology

Many chronically debilitating diseases for which there are currently no effective treatments have patient populations too small to attract the interest of large commercial entities. We believe that such orphan diseases can provide us with an attractive business opportunity. We are concentrating initially on several underserved diseases that are prevalent by orphan disease standards but small enough to allow for clinical trials on a manageable scale and to provide markets that we believe we can serve using a small, targeted commercial infrastructure.

We have focused on orphan ophthalmology because we believe there is a significant unmet medical need in eye diseases. The diseases we are targeting are also of interest to us due to a number of factors that, in combination, have enabled us to screen and more accurately predict the potential safety and efficacy of products at an early stage of development:

- *Well-understood disease mechanisms.* Because sight is the most important sense to humans—many people fear blindness more than premature death—even very rare diseases that cause vision loss have been studied extensively and are well-understood down to the molecular mechanism of action.
- *Monogenic diseases.* We are initially pursuing eye diseases where the genetic abnormality is known and is caused by mutations in a single gene, known as monogenic diseases. We therefore know exactly what gene sequence to insert into the patient's cells, thus mitigating the uncertainty of disease biology.
- *Highly predictive animal models.* For many eye diseases there are highly predictive animal models in which the disease is caused by the same underlying genetic defect and has clinical outcomes that are similar to those in humans.
- *Local delivery of therapeutic agent.* Direct delivery to the eye of a therapeutic agent, via methods already widely used in ophthalmology, allows us to use lower doses, with reduced risk of unintended effects.
- *Short time to clinical data.* In XLRS and ACHM, we expect to obtain meaningful clinical data within three to six months after a one-time administration of the product candidate to a patient, which we believe will facilitate the clinical development of our product candidates.

Ophthalmology is also attractive to us as a clinical stage company because treatments for diseases affecting vision have clearly defined, objective clinical endpoints with validated measurement tools that are accepted by the FDA. Other orphan drug companies have spent considerable time and resources working with the FDA to identify acceptable clinical endpoints and develop measurement tools in sometimes ill-defined diseases. In ophthalmology the four accepted endpoints—visual acuity, visual fields, contrast sensitivity and color vision—are well understood, routinely measured by clinicians, and the FDA consistently applies them and provides guidance on how much improvement is required for clinical relevancy. We believe these clearly defined endpoints will help accelerate the process of clinical study and regulatory approval for our ophthalmic products.

Finally, through our internal research work and in collaboration with partners, we have obtained preliminary safety data in clinical trials with the two major delivery routes used in ophthalmology: intravitreal and subretinal injection. In clinical trials conducted by our licensee Genzyme, 19 patients with wet AMD were treated by intravitreal injection of an AAV vector, and in other trials conducted by us and others more than 50 patients with LCA2 have been treated with subretinal injections of AAV vectors, in both cases without reports of serious adverse events attributed to the vector, and with promising indications of efficacy for LCA2 patients.

Our strategy

Our objective is to become the world leader in developing and commercializing gene therapy treatments for eye diseases, and to thereby provide a better life for patients with these diseases, for which in some cases there are no currently available treatments. Our strategy to accomplish this goal is to:

- **Develop and commercialize drugs in orphan ophthalmology**. Our lead product candidates are treatments for the severe orphan eye diseases XLRS and ACHM, for which we expect to initiate Phase 1/2 trials in late 2014 and early 2015, respectively. We are also pursuing early preclinical research in XLRP. Given the severity of these diseases and the current lack of treatment options, a one-time-treatment alternative that corrects the underlying genetic defect would provide superior long-term value for patients, their families and the healthcare system more broadly.

- **Expand our position in ophthalmology.**

  - **Continue our leadership position in orphan ophthalmology.** We have developed significant experience in the orphan ophthalmology space through our work on XLRS, ACHM, XLRP and LCA2. We have strong relationships with key opinion leaders in the field and with leading patient advocacy groups. We have received grants aggregating $8.9 million from the Foundation Fighting Blindness, or FFB, the National Institutes of Health, or NIH, the National Eye Institute, or NEI, and the FDA. Our scientific advisory board is comprised of leaders in the fields of ophthalmology and genetics, such as William W. Hauswirth, Ph.D., the Rybaczki-Bullard Professor of Ophthalmology and Molecular Genetics at the University of Florida College of Medicine who is also one of our scientific founders.

  - **Expand our product offerings to wet AMD.** We plan to develop new treatments for wet AMD by leveraging our experience developing products in orphan ophthalmology and our work with Genzyme on a first generation product for wet AMD. Advances have been made in understanding of the disease etiology and the number of known potential targets has increased since the first anti-VEGF gene therapy programs were designed. We plan to use our resources and access to experts in this field to evaluate these new targets and rapidly move a product candidate into the clinic.

  - **Seek opportunities for strategic partnerships and acquisitions in ophthalmology gene therapy.** We believe that with additional resources there may be opportunities for us to partner with newly commercial companies and academic groups. We expect that our breadth of experience in research, manufacturing, clinical and regulatory matters will help us to identify and execute in- licensing, co-development arrangements, intellectual property acquisitions or

manufacturing agreements that would further extend our leadership position in ophthalmology gene therapy.

- **Extend our expertise in AAV vector design, delivery and manufacturing**. We believe that our understanding of our target indications and our robust internal expertise in viral vector design, physical vector delivery, vector manufacturing, clinical trial design and clinical trial conduct are significant competitive advantages. We intend to continue to devote substantial resources to developing the science underlying successful AAV vector design and delivery, as well as to expanding the capabilities of our reproducible, scalable manufacturing process. We also intend to enhance our discovery capabilities and reduce our reliance on external research at academic organizations by expanding our basic research capabilities for target identification, vector design and candidate therapeutic screening.
- **Expand our manufacturing capabilities and create a pilot manufacturing group.** We will seek to decrease our dependence on contract manufacturers by acquiring capital equipment and staffing a facility capable of process development and non-cGMP manufacturing at a scale of up to 100 liter, or 100 L, batches, for indications beyond orphan ophthalmology. Such a facility would enable us to complete process development at a final manufacturing scale appropriate for many indications prior to transfer of manufacturing to a cGMP facility, giving us better control of our future manufacturing requirements. We believe these investments will facilitate the more rapid advancement of our products through regulatory approval and enhance the therapeutic and commercial potential of our gene therapy platform.
- **Pursue orphan indications with high unmet medical need and greater probability of clinical, regulatory and commercial success.** We will continue to focus on diseases for which the underlying genetic defect is well characterized and can be addressed by correcting or inserting a single gene, for which predictive animal models exist and for which clinical endpoints are objective and have been validated by the FDA. We believe that focusing on these types of indications will enable us to obtain data more rapidly and accelerate the process of clinical study and regulatory approval of our products. Given the relatively low prevalence of orphan diseases and the strong key opinion leader communities and patient advocacy groups around them, we also believe we will be able to serve these markets independently with a small, targeted commercial infrastructure.
- **Evaluate opportunities to leverage our gene therapy platform to address indications outside of ophthalmology.** We intend to develop and partner selectively to expand the scope of our pipeline and the utilization of our gene therapy platform. The adaptability of our platform also presents an opportunity for us to selectively form collaborative alliances to expand our capabilities and product offerings into a range of genetically defined diseases and potentially to accelerate the development and commercialization of gene therapy products more broadly. One such alliance led to our preclinical development and eventual license to Genzyme of a treatment for wet AMD. We are also continuing clinical trials of our treatment for the inherited orphan lung disease AAT deficiency. We continue to evaluate similar opportunities to extend the commercial application of our gene therapy platform.

Gene therapy background

Genes enable production of proteins that perform a vast array of functions within all living organisms. Many diseases have a genetic aspect whereby a mutated gene is passed down from generation to generation. Mutated genes can cause production of abnormal proteins, which can cause disease.

Gene therapy involves the introduction of a functional copy of the gene into a patient's own cells using a delivery system most commonly based on a viral vector to treat the genetic defect. Gene therapy has the potential to change the way these patients are treated, by correcting the underlying genetic defect that is the cause of their disease rather than offering treatments that only address symptoms. We believe that by correcting the underlying genetic defect, gene therapy can provide transformative disease modifying effects—potentially with life-long clinical benefits based on a one-time therapeutic administration.

The promise of gene therapy has evolved over the last decade, with a growing body of clinical data that we believe has provided evidence of efficacy and safety in a variety of disease areas, improvements in vector design and manufacturing processes by us and others and the establishment of regulatory guidelines for the development and approval of gene therapy products. These advances have led to increased investment from the biopharmaceutical industry and supported the emergence of gene therapy as an important therapeutic modality for patients with significant unmet medical needs.

Our gene therapy platform

Our approach to gene therapy product development is conceptually straightforward. We design an AAV vector that will carry the functional gene necessary to express the desired protein, produce the vector using our proprietary production methods, and then deliver the product directly to the appropriate cells in a patient by a suitable physical delivery method. Although the concept of gene transfer is simple, the process of developing and manufacturing AAV vectors capable of delivering the genetic material safely into a patient's own cells is highly technical and demands significant expertise, experience and know-how.

Our gene therapy platform is built on our core competencies in three key areas:

- vector selection and design;
- vector manufacturing; and
- vector delivery.

Our vector selection and design process

AAV vectors. The success of a gene therapy platform is highly dependent on the vector selected. Our platform is based on the use of a modified version of the non-replicating adeno-associated virus to deliver the correct DNA directly to the nucleus of the cells affected by the disease. We believe that AAV vectors are particularly well suited for treating our target diseases and have advantages over other viral vectors, such as adenovirus, herpes virus and lentivirus. These advantages include:

Simplicity—AAV is a small, simple non-enveloped virus with only two native genes. This makes the virus straightforward to work with from a vector engineering standpoint.

Stability—AAV is extremely stable: it is resistant to degradation by shear, solvents and enzymes, facilitating purification and final formulation. AAV stability could also enable development of a freeze-dried formulation, should this become necessary for larger markets where shipping and distribution of the current frozen formulation would be challenging.

Sustained expression—Unlike vectors based on other viruses, our AAV vectors are capable of inserting the functional gene into the patient's cells as an extra-chromosomal episome, which is a stable, circular form of DNA in the nucleus of cells. Inserting the functional gene as an episome supports long-term production of the protein, leading to sustained therapeutic effect, without altering the patient's existing DNA. Sustained expression is a powerful advantage of using AAV as a vector: a one-time therapeutic administration of a functional gene into a cell can potentially support protein production for the life of the cell, which, in the cell types we are currently focused on treating, may approximate the duration of the patient's lifetime.

Safety—We believe AAV vectors are the safest for use in human gene therapy. In contrast, clinical trials using other vectors, such as lentivirus, adenovirus and herpes virus, have reported serious adverse events. The safety advantages of AAV vectors include the following:

- AAV elicits a low immune response, reducing the risk of adverse inflammatory reactions. In contrast, trials with adenoviral vectors have reported severe inflammatory reactions.

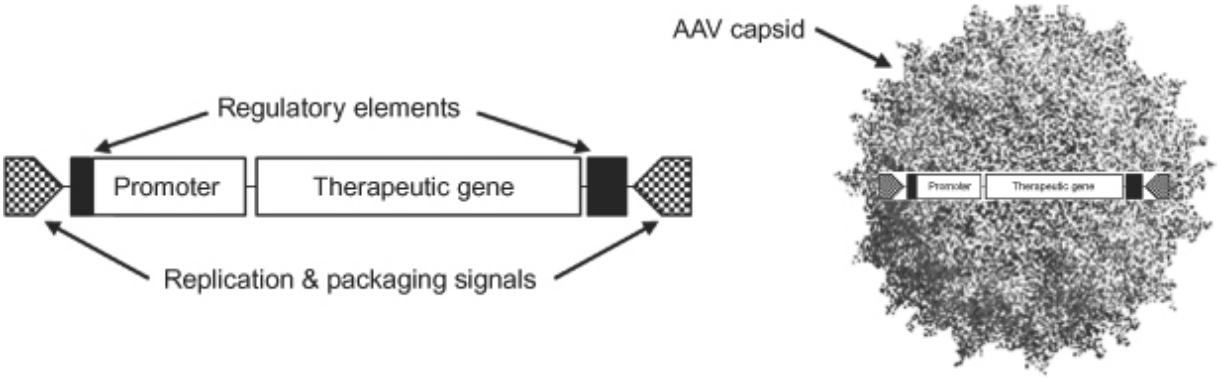
- AAV vectors, while they provide sustained expression, do not alter the patient's existing DNA, and safety is therefore improved over vectors that alter the patient's DNA. Trials using early versions of lentiviral vectors, which insert genes directly into, and thereby alter, the patients' DNA, resulted in several well-publicized adverse events, including reported cases of leukemia.
- AAV has never been linked to human disease, unlike most other viruses used as gene delivery vectors such as adenovirus, herpes virus and lentivirus.
- AAV vectors have no viral genes remaining, eliminating the possibility that any viral genes will cause an adverse event.

AAV vectors have been used in more than 100 human clinical trials, by us and others, with no serious adverse events traced to the use of AAV as the gene delivery vector. In our direct experience with human clinical trials for LCA2, AAT deficiency and wet AMD, over 100 patients were treated using AAV vectors, with no serious adverse events attributed to the vector. In a Phase 2 trial of our AAT deficiency product candidate, patients were treated with doses more than 1,000-fold higher than those planned for use in any of our ophthalmic indications, with no serious adverse events reported.

Carrying capacity—AAV vectors have the capacity to carry therapeutic gene sequences up to 4,000 base pairs in length into a patient's cell. As more than 90% of human genes have coding sequences less than 3,000 base pairs in length, we expect to be able to pursue a wide variety of indications with our AAV vectors.

Vector design. After the selection of the vector type, there are many other critical factors to be considered when designing a gene therapy product. These include selecting the appropriate:

- therapeutic gene,
- promoter and related gene regulatory elements,
- AAV sequences needed to signal replication and packaging, and
- AAV capsid (the protein shell) in which these elements are packaged.



The first step in vector design is to identify the therapeutic protein that we want the patient's own cells to produce, and then insert the gene that encodes that protein into an AAV vector. Production of the protein requires a promoter, which is a genetic element to drive expression. Certain promoters function well only in certain cell types, whereas other promoters function well in almost any cell type. We make our selection by comparing different promoters in the specific type of cells that are affected in each disease target, ideally in an animal whose physiology is close to that of humans, to find the promoter that best enables production of therapeutic levels of protein in that cell type.

After the promoter and gene of interest are selected, we insert these elements between AAV viral sequences that are needed for replication and packaging of the vector into the AAV capsid. There are hundreds of variations of AAV capsids with different efficiencies in their ability to bind to and enter varying cell types. We select the capsid for a specific product candidate after comparing different capsids in the type of cells that are affected by the targeted disease.

One of our key capabilities is our depth of understanding of the complex interplay between the clinical disease, the cells in the patient's body that need treatment, the selection of a capsid and a promoter, the design of the gene construct and the physical administration method. We have spent years conducting research on the best combinations of these elements with the aim of developing safe and effective gene therapy treatments.

Vector manufacturing: our HAVE method

We have developed a proprietary, high-yield vector manufacturing process using scalable technologies for herpes-assisted vector expansion, which we refer to as our HAVE manufacturing method. While the HAVE manufacturing method uses the herpes virus as a helper in the first step of a four-step AAV vector manufacturing process, there is no herpes virus in the final product. Our HAVE manufacturing method addresses problems of low productivity and low efficacy that have historically plagued efforts to manufacture AAV vectors and enables us to produce vectors with improved potency, efficiency and safety over processes previously used by us and others. It also enables us to produce a more purified and concentrated end product, as evidenced by an approximately 25- to 30-fold reduction in non-infectious viral contaminants as compared to vectors used in previous clinical trials.

Our manufacturing process has been reviewed by both the FDA and the European Medicines Agency, or EMA, and has been authorized for production of product candidates for use in clinical trials in the United States and Europe. Our manufacturing process is also reproducible and scalable. It has been transferred successfully to Genzyme and to SAFC Pharma, our contract manufacturing organization, where it is used in manufacturing clinical materials pursuant to the FDA's current good manufacturing practices, or GMP, requirements.

We and SAFC Pharma have successfully produced the necessary material for the clinical trials we have conducted to date, and have more than enough manufacturing capacity to meet the requirements of our planned future trials. We are currently investing in the development of mid- to large-scale manufacturing processes with a view towards supporting our product candidates, if approved, at commercial scale. We are developing a pilot manufacturing group to decrease our dependence on contract manufacturers by securing capital equipment and staffing a facility capable of process development and non-cGMP manufacturing at up to 100 L scale.

We hold or have licensed 26 issued and 6 pending patents covering our manufacturing technology. We believe that our core competency and intellectual property estate in vector manufacturing differentiate us competitively and provide a key element of our gene therapy platform.

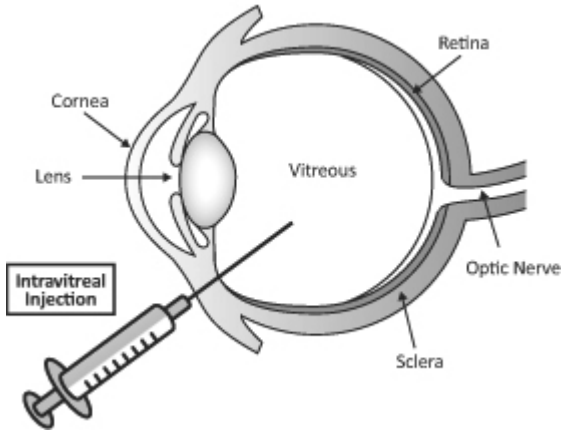
Vector delivery

Our gene therapy platform allows for vector delivery by a variety of methods, and we select the method that is most beneficial for the disease we are targeting. The method used depends on the type of cells we are targeting for treatment.

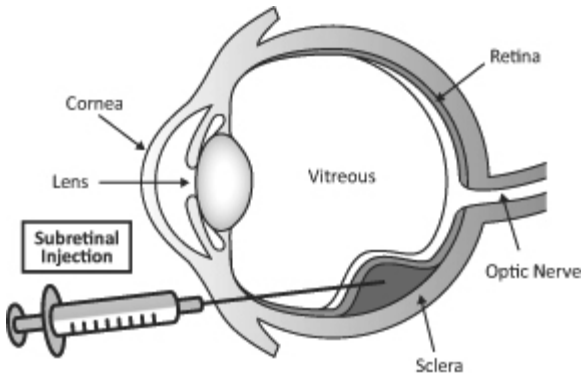
In ophthalmology, the product candidate can best be delivered to cells in the eye by intravitreal or subretinal injection.

Intravitreal injection into the vitreous humor, which is the clear gel that fills the space between the lens and the retina of the eye, is best for delivering the product candidate to the retinal neurons in the inner retina (the portion of the retina closest to the lens), to photoreceptors located in the fovea (the very center of the macula,

which is the central part of the retina that is required for fine visual acuity), and other cells in the lateral portions of the eye. This routine procedure can be carried out in an ophthalmologist's office.



Subretinal injection between the photoreceptors in the outer retina and the retinal pigment epithelium just beyond the retina are best for delivering the product candidate to the outer retina, farthest from the lens, where the AAV vector can readily enter photoreceptor cells and retinal pigment epithelium cells. This is a short, outpatient surgical procedure that is frequently performed by retinal surgeons.



We expect to use intravitreal injection as the method of delivery for our XLRS product candidate, and we plan to evaluate both subretinal injection and intravitreal injection as methods of delivery for our ACHM and XLRP product candidates.

For other indications, such as the orphan lung disease AAT deficiency, where secretion of a therapeutic protein into the bloodstream is the goal, we plan to administer the product candidate to muscle cells. There are large numbers of muscle cells in the body, providing the ability to produce a large amount of protein for systemic circulation. This can be accomplished by several methods, including:

- *intramuscular injection*, in which the product candidate is directly injected into muscle cells, and
- *vascular delivery,* in which the product candidate is administered to the muscle cells of an entire leg, using infusion methods similar to those currently employed in cardiac catheterization, oncology and anesthesiology. In preclinical animal studies of our product candidate for AAT deficiency, using a vascular delivery method was shown to achieve much higher serum levels and lower immune responses compared to direct intramuscular injection.

These methods of administration of our product candidates are well established for the safe and effective delivery of other drugs and protein products. AAV vectors can be delivered by these and other methods to a wide

array of other cells, such as heart muscle cells in certain cardiac diseases or directly into the brain in certain neurologic diseases.

Our approach can potentially arrest, correct or treat a disease with a one-time therapeutic administration, as many of the cells to which the product candidate is delivered will survive for the life of the patient and treatment of those cells thereby has the potential to deliver life-long effects. For example, cells in the retina, important in XLRS and ACHM, mature shortly after birth and in the absence of disease exist unchanged for the life of the patient. Once treated with our gene therapy products, these cells have the potential to express the therapeutic protein for the remaining life of the cell. This approach potentially provides significant value to patients, families, providers and payors.

Our product programs

Our lead programs address XLRS and ACHM, which are orphan diseases of the eye that are caused by mutations in single genes, significantly affect visual function starting at birth and currently lack effective medical treatments. We are also pursuing early stage preclinical research in treating other orphan eye diseases, such as XLRP.

We initially developed our gene therapy platform and obtained evidence of its safety and efficacy in proof-of-concept programs involving two other eye diseases: LCA2 and wet AMD. In 2010, we licensed our wet AMD technology to Genzyme. Genzyme has informed us that it no longer intends to use our manufacturing technology to produce the AAV vector being used for the wet AMD product and will develop the product independently of us. As a result of this decision by Genzyme, we were released from non-competition covenants with Genzyme that limited our ability to operate within the field of ocular neovascularization, and we are currently investigating opportunities to leverage our gene therapy infrastructure and expertise for the AMD market. We currently do not expect to commercialize our LCA2 proof-of-concept program.

We are also developing a product candidate for treatment of the inherited orphan lung disease AAT deficiency for which we have conducted preclinical proof-of-concept studies and Phase 1 and Phase 2 clinical trials. We believe our AAT deficiency program provides proof of concept for the use of our gene therapy platform in indications outside our focus area of orphan ophthalmology.

Our proof-of-concept programs in ophthalmology

The programs highlighted below, while not the principal focus of our current efforts, are critical to those efforts in that they establish initial evidence of safety and potential efficacy of our gene therapy approach in preclinical studies and clinical trials. These programs enabled us to develop significant experience working with clinical trial design and conduct, clinical investigators and regulatory agencies and in vector design, delivery and manufacturing. They also demonstrate that our manufacturing platform has been successfully vetted by regulatory agencies and partners and has been able to produce clinical material for multiple trials.

Leber congenital amaurosis

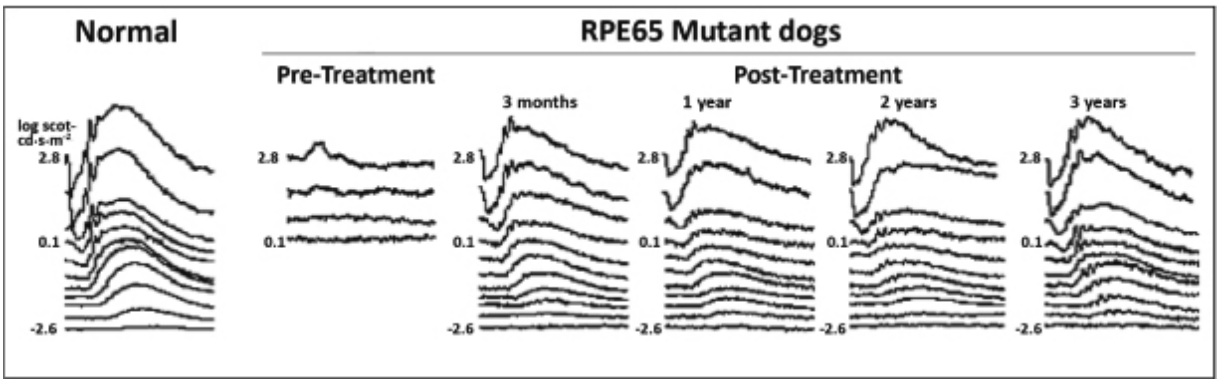
Leber congenital amaurosis, or LCA, is a form of early onset, inherited retinal degeneration caused by mutations in any one of 16 genes involved in retinal function and leads to blindness at birth or in early childhood or adolescence. Studies by Dr. Edward Stone published in the *American Journal of Ophthalmology* (2007) indicate the overall prevalence of LCA is one in 81,000 people, which implies there are about 3,700 cases of LCA in the United States and about 6,200 cases of LCA in Europe.

One form of LCA, referred to as LCA2, is caused by mutations in the RPE65 gene. RPE65 protein is an enzyme that is critical for normal phototransduction, the process whereby a light signal is converted to an electrical signal transmitted to the brain. A review paper by den Hollander, published in *Progress in Retinal and*

Eye Research (2008), reported that mutations in the RPE65 gene are responsible for about 6% of all cases of LCA, from which we estimate that there are approximately 600 LCA2 patients in the United States and Europe, combined.

In preclinical studies, our LCA2 product candidate was evaluated for efficacy in mouse and dog models of LCA2 caused by mutations in the RPE65 gene. Restoration of visual function in mice and dogs was demonstrated by behavioral testing and electroretinogram, or ERG, testing, which measures electrical signaling in different cells of the retina.

The figure below shows ERG responses to flashes of light of increasing intensity, from dim (-2.6 log units) to very bright (2.8 log units) in a normal animal (left) or in a dog with RPE65 mutations before treatment and at three months and one, two and three years after a one-time therapeutic subretinal injection of our LCA2 product candidate. After treatment, the ERG responses of treated dogs recovered to nearly normal levels within three months and remained there for the three-year duration of the study. Though not illustrated below, follow-up ERG testing has shown that the improvement in ERG responses has been sustained in these animals for 10 years after treatment.



Based on data from Acland et al., *Molecular Therapy* (2005)

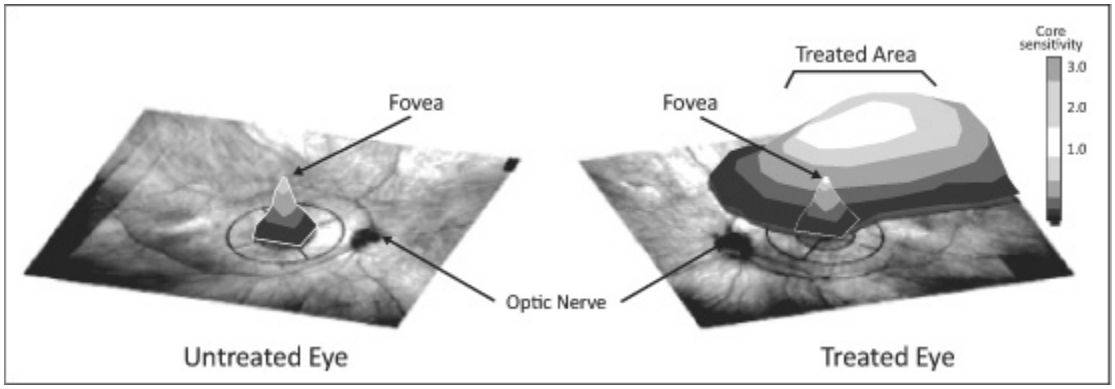
Our LCA2 product candidate was also evaluated in single-dose toxicology studies in dogs and monkeys, with no systemic toxicity after subretinal injection. The ocular changes that were observed were consistent with the expected effects of subretinal surgery, were not vector dose-dependent and resolved during the three-month study.

We have made the following progress in clinical development of our LCA2 program:

- our product candidate was granted an orphan drug designation by the FDA for the treatment of LCA2 caused by RPE65 mutations;
- we received a $1.1 million grant from the FDA to conduct a Phase 1/2 clinical trial;
- the NIH Recombinant DNA Advisory Committee, or the NIH RAC, reviewed our draft protocols for the Phase 1/2 clinical trial and its recommendations were incorporated into the final protocol and informed consent documents;
- we had a type B pre-IND meeting with the FDA in 2008, during which the FDA provided guidance on the manufacturing, nonclinical and clinical development of our LCA2 product candidate; and
- we submitted an IND in 2008 and have completed enrollment of a Phase 1/2 clinical trial in 12 patients affected by LCA2. Long-term follow-up is ongoing.

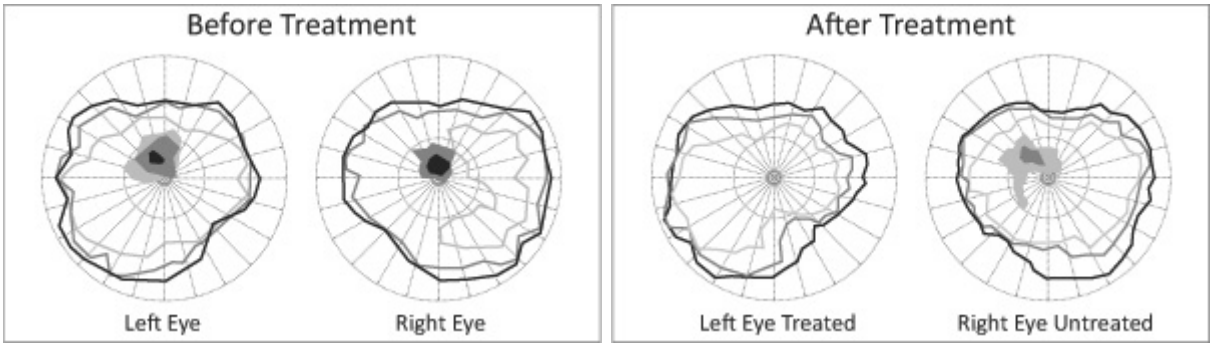
Results of our Phase 1/2 trial and other studies with the same or similar AAV vectors have demonstrated improvement in one or more measurements of visual function in almost all human patients tested and there has been no evidence of safety issues.

The figure below shows a "hill of vision" map of the retina for both eyes of a patient one year after receiving a subretinal injection of our LCA2 product candidate in one eye. The map represents the sensitivity of cone photoreceptors to light stimulation, from black (minimal sensitivity) to white (moderate sensitivity). Before treatment, both eyes had a "hill of vision" restricted to the fovea. One year after treatment, the treated eye had a new "hill of vision" with dramatically increased cone photoreceptor sensitivity in the area of the retina where the subretinal injection was administered. In fact, light sensitivity is now greater in the treated area than in the fovea of this patient.



Based on data from Cideciyan et al., *New England Journal of Medicine* (2009)

The figure below shows visual fields of a human patient before (left) or two years after (right) one-time therapeutic treatment with our LCA2 product candidate in the left eye. The scotoma, or blind spot, illustrated by the dark spot in the middle of the eye, that was present before treatment disappeared after treatment of the left eye:



Based on unpublished data from AGTC Phase 1/2 clinical trial

We expect to receive additional two-year follow-up data from these studies in late 2014. At the present time we do not plan to conduct additional clinical trials with this product candidate, as we believe the small number of persons affected by the RPE65 form of LCA2, which we estimate at approximately 600 in the United States and Europe combined, are being adequately served by ongoing and planned clinical trials conducted by multiple academic research centers in the United States and several European countries.

Wet age-related macular degeneration

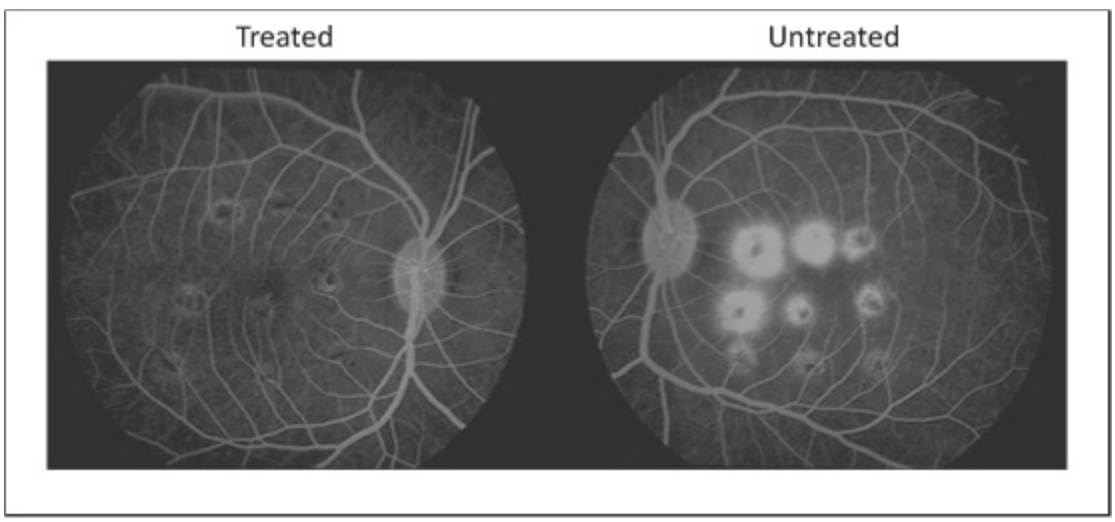
Age-related macular degeneration, or AMD, is a retinal disease that usually affects older adults and results in a loss of vision in the center of the visual field (the macula). It is a major cause of blindness and visual impairment in older adults and occurs in "dry" and neovascular, or "wet," forms. In the wet form, abnormal

growth of blood vessels in the retina is stimulated by a protein called vascular endothelial growth factor, or VEGF. The abnormal blood vessel growth, or neovascularization, causes vision loss due to blood and protein leakage below the macula.

If left untreated, bleeding, leaking and scarring from these blood vessels eventually cause irreversible damage to the photoreceptors and rapid vision loss. Treatment through intravitreal injection with drugs that inhibit VEGF can cause regression of the abnormal blood vessels and improve vision when injected directly into the vitreous humor of the eye. However, the injections must be repeated monthly or bimonthly. The approach to treatment of wet AMD that we licensed to Genzyme used an AAV vector to insert into the patient's own retinal cells a gene, called sFLT01, that encodes an engineered version of the receptor to which VEGF binds, and these cells then provide sustained production of the VEGF-inhibiting sFLT01 protein.

In preclinical studies, the wet AMD product candidate was evaluated in animal models of retinal neovascular diseases, used for testing products that inhibit VEGF, and for safety in rats and nonhuman primates. After intravitreal injection of the wet AMD product candidate, long-term expression of the engineered sFLT01 protein was demonstrated in both mice and monkeys. In the monkey disease model, the wet AMD product candidate resolved the neovascularization, with efficacy results similar to those shown for currently marketed anti-VEGF agents.

The figure below shows retinal photographs in a monkey that received an intravitreal injection of the wet AMD product candidate in one eye and later received nine laser-induced neovascular lesions in each eye followed by injection of a dye used to determine the amount of leakage from retinal blood vessels. The figure shows the marked reduction in leakage, indicated by white patches around a central dark spot, from the lesions in the treated eye (left) compared to the untreated eye (right).



Based on data from Lukason et al., *Molecular Therapy* (2011)

In 2010, we announced the exclusive license of the jointly developed program in wet AMD to Genzyme. The following progress has been made in clinical development of the wet AMD product candidate:

- we had a type B pre-IND meeting with the FDA during which meeting the FDA provided guidance on the manufacturing, nonclinical and clinical development of the wet AMD product candidate;
- the NIH RAC reviewed draft protocols for the Phase 1 clinical trial and its recommendations were incorporated into the final protocol and informed consent; and

- Genzyme submitted an IND and is conducting a Phase 1 clinical trial under this IND. The trial began in 2010, is fully enrolled, and was scheduled to complete the 1-year follow-up evaluations for the last patient in July 2014. In September 2014, preliminary results were presented which appear to support that the therapy is safe, well tolerated and shows encouraging signs of efficacy.

Genzyme has informed us that it no longer intends to use our manufacturing technology to produce the AAV vector being used for its wet AMD product and will develop the product independently of us. As a result of this decision by Genzyme, we were released from non-competition covenants with Genzyme that limited our ability to operate within the field of ocular neovascularization, and we are currently investigating opportunities to leverage our gene therapy infrastructure and expertise for the AMD market.

Our proof-of-concept programs beyond ophthalmology

In one of our first proof-of-concept programs, we developed a product candidate for the treatment of AAT deficiency, which is an inherited orphan lung disease. We are continuing clinical trials of a vascular method for delivering our AAT deficiency product candidate to muscle cells, and expect to submit an amendment to our existing IND to allow us to conduct a Phase 2b clinical trial in early 2015. For more information about this program, see "—Proof-of-concept programs beyond ophthalmology; our Alpha-1 antitrypsin deficiency product candidate."

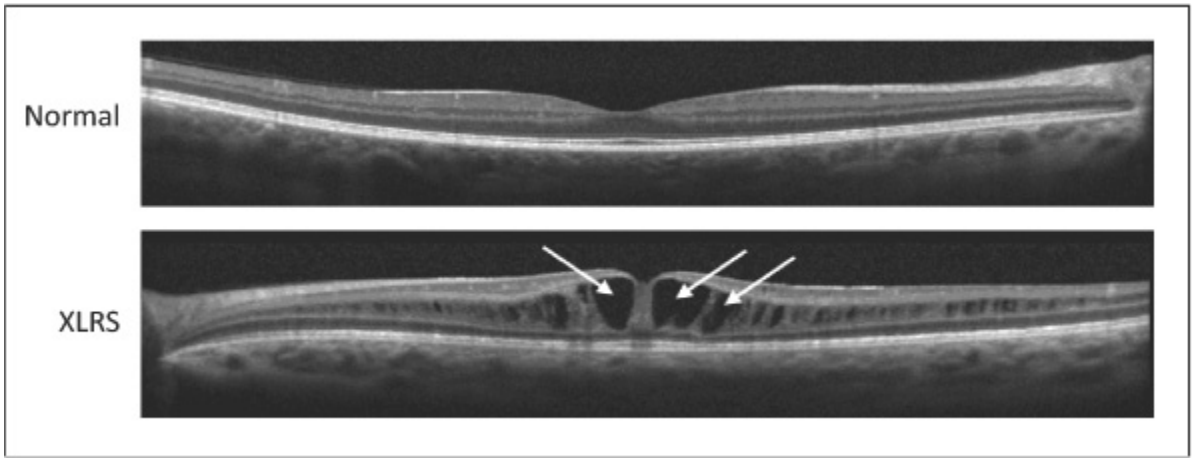
Our lead programs

X-linked retinoschisis

XLRS is an inherited retinal disease caused by mutations in the RS1 gene, which is located on the X chromosome and encodes the retinoschisin, or RS1, protein. Retinoschisin is expressed and secreted primarily from photoreceptor cells and binds strongly and specifically to the surface of photoreceptor and bipolar cells in the retina. Mutated forms of retinoschisin are unable to bind properly, resulting in schisis, or splitting of the nerve fiber layers of the retina, primarily in the macula. The disease begins early in childhood, and affected boys typically have best-corrected visual acuity of 20/60 to 20/120 at initial diagnosis. Complications such as retinal hemorrhage or retinal detachment occur in up to 40% of patients, especially in older patients. According to *Molecular Genetics of Inherited Eye Diseases* (1988), the incidence rate for XLRS is between one in 5,000 and one in 20,000 males. Using an incidence rate of 1 in 11,500 and assuming half the population is male, we estimate that there are about 13,000 persons in the United States and about 22,000 persons in Europe with XLRS, or 35,000 persons in the United States and Europe combined.

The diagnosis of XLRS is made based on clinical findings and results of imaging studies and ERG. Clinical findings include reduced visual acuity and a characteristic spoke-wheel appearance of the macula when viewed by an ophthalmoscope, which is the instrument commonly used by ophthalmologists and optometrists to view the retina. Images obtained by optical coherence tomography, or OCT, a method of viewing layers of the eye somewhat like a sonogram, show spaces between the layers of the retina within the macula and fovea in most school-age boys with XLRS. These spaces mean that electrical signals cannot move from the photoreceptors to other retinal neurons and on to the brain, resulting in poor vision. When this is measured by ERG testing it can be detected by a markedly abnormal ERG response.

The figure below shows an OCT image from a normal individual (top) and from a patient with XLRS (bottom). The black spaces indicated by the arrows in the bottom portion of the figure demonstrate splitting of the layers of the retina leaving spaces that interfere with the movement of electrical signals.



There is currently no approved treatment for XLRS. Management of disease manifestations includes low vision aids such as large-print textbooks, preferential seating in the front of the classroom and use of handouts with high contrast. Surgery may be required to address complications of vitreous hemorrhage or full-thickness retinal detachment. Anecdotal reports suggest that topical carbonic anhydrase inhibitors may provide some reduction in the degree of schisis detected by OCT and improvement in visual acuity in some but not all patients, but the absence of controlled clinical trials makes interpretation of these reports difficult. In addition, treatment with carbonic anhydrase inhibitors does not address the fundamental genetic defect in persons affected by XLRS. Neither carbonic anhydrase inhibitors nor any other medicinal products have been approved by regulatory agencies for treatment of XLRS.

Our XLRS product candidate

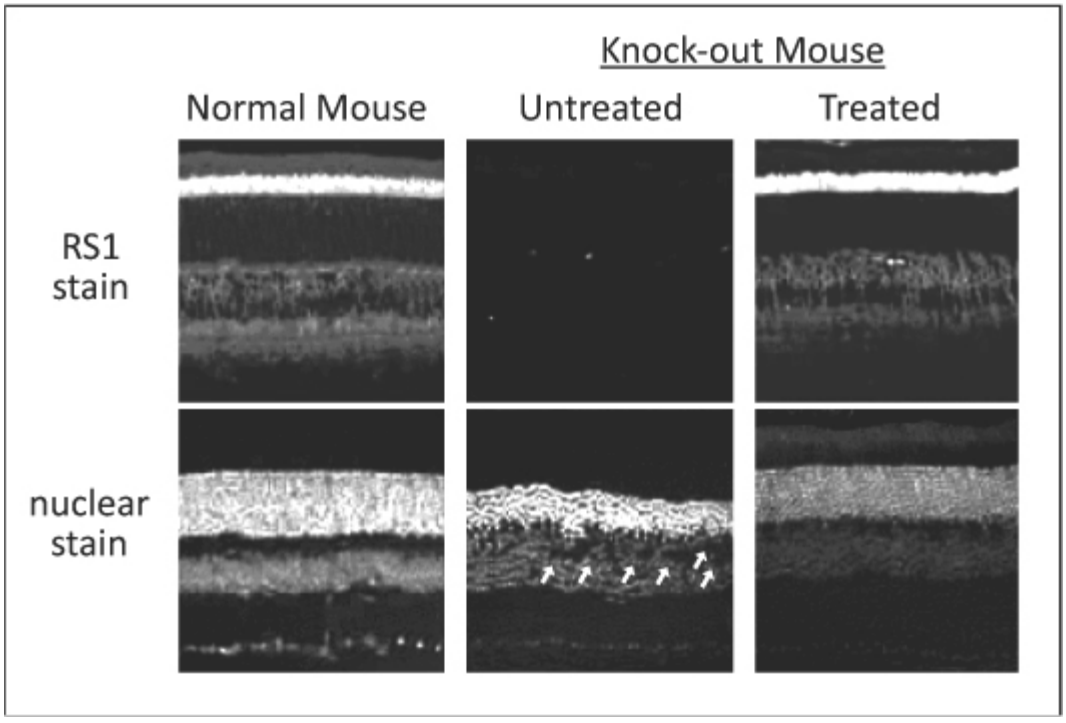
Our gene therapy approach involves using an AAV vector to insert a functional copy of the RS1 gene into the patient's retinal cells, thereby inducing those cells to produce the normal retinoschisin protein. Our XLRS product candidate contains the RS1 gene and a promoter that has been shown to work well in primate retinal cells, and is packaged in an AAV capsid that is able to efficiently enter cells in the inner layers of the retina after intravitreal injection.

After the vector containing a functional copy of the RS1 gene enters a retinal cell, the gene is processed by normal biochemical processes into a stable DNA episome in the nucleus of the cell. This stable form of the gene allows production of the normal retinoschisin protein which is then secreted from the retinal cells and binds to the surfaces of photoreceptor and bipolar cells in the retina, pulling them together and eliminating any splitting between the layers of the cells. Upon light stimulation of the photoreceptor cells, the presence of the retinoschisin allows normal transmission of electrical signals from the photoreceptor cells to the bipolar cells and then to other retinal neurons that transmit the signals to the visual cortex in the brain. Production of normal retinoschisin continues as long as the episome persists in the cell, which may be for many years or even life-long, thereby providing long-term potential benefit after a one-time therapeutic administration.

Preclinical proof of concept for our XLRS product candidate

In mouse models of XLRS, our gene therapy approach restores to normal the abnormal ERG characteristic that is present in XLRS. Mouse models of XLRS have been developed by deactivating, or knocking out, the RS1 gene in mice. These "knockout" mice have clinical features similar to humans with XLRS, including reduced visual acuity, schisis cavities detected by OCT, and a markedly abnormal ERG response.

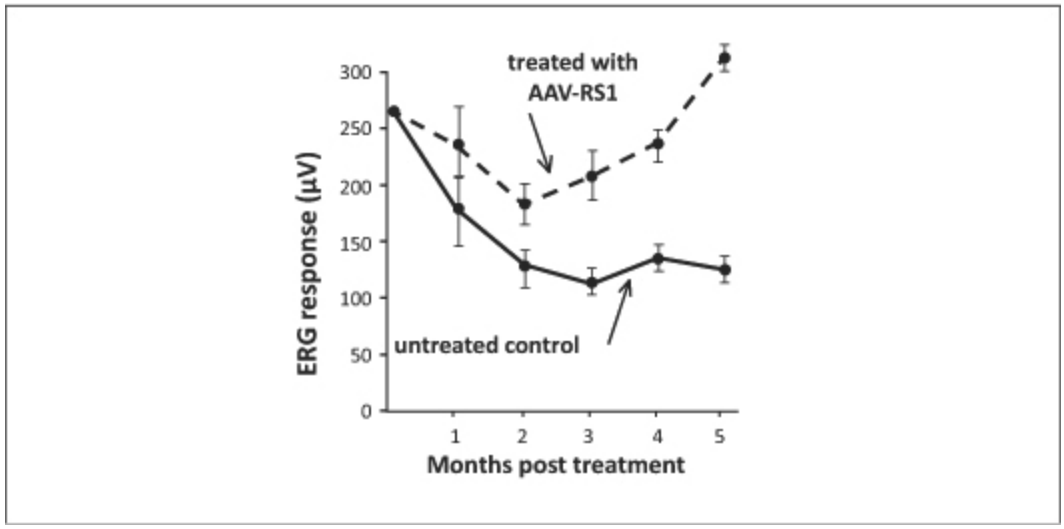
The figure below shows staining for retinoschisin (top row) and for nuclei in retinal cells (bottom row) in a normal mouse (left), a RS1 knockout mouse in the absence of treatment (middle) and a RS1 knockout mouse treated with an AAV-RS1 vector (right). The knockout mouse retina has no expression of retinoschisin and has splitting and disorganization of the layers of the retina, indicated by the arrowheads in the middle panel of the nuclear staining. After treatment, RS1 staining is present in a normal fashion and the nuclear staining shows restoration of the organization of the cell layers in the retina (right).



Based on data from Min et al. *Molecular Therapy* (2005)

Treatment by injection of an AAV vector expressing either mouse or human RS1 in these knockout mice improved visual function as measured by increased ERG b-wave responses.

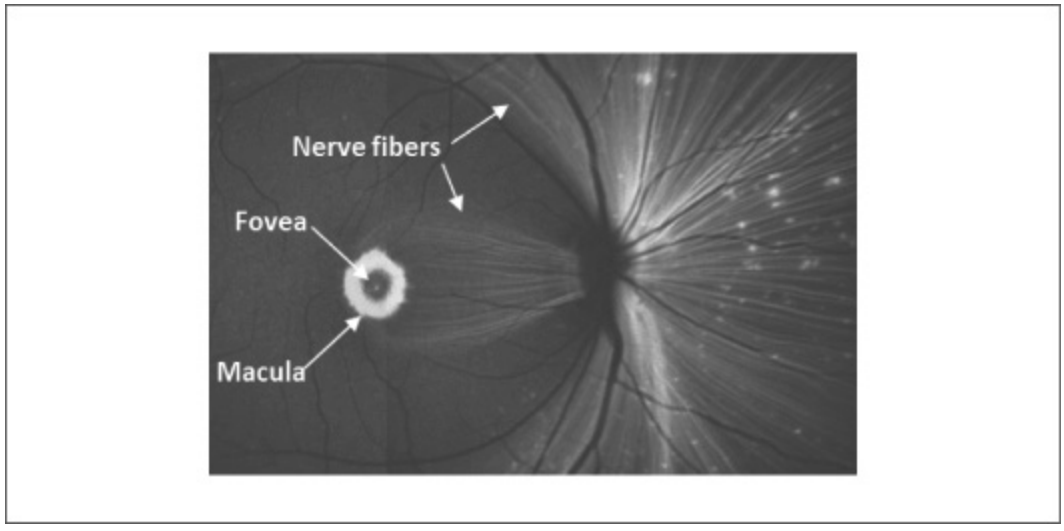
The figure below shows improved ERG responses in RS1 knockout mice at various times after treatment with an AAV-RS1 vector compared to ERG responses in untreated control RS1 knockout mice. The figure shows a progressive decrease in the ERG response in the untreated mice but a slower decrease and eventual increase in the ERG response in the treated mice.



Based on data from Min et al. *Molecular Therapy* (2005)

We have concluded that intravitreal injection is the preferred route of administration for an AAV-RS1 vector. We therefore evaluated intravitreal injection of an AAV vector expressing a marker protein packaged in several different AAV capsids in monkeys and demonstrated that a vector packaged in an engineered capsid was able to target expression to the macula, which is the primary area in which retinoschisis occurs.

The figure below shows expression of a marker protein (white areas) in the macula, fovea and nerve fibers of a monkey retina after intravitreal injection of a vector contained in the engineered capsid. We believe that intravitreal injection of a vector containing the RS1 gene in the same engineered capsid would show expression of retinoschisin in the same areas.



Based on AGTC animal study data

We are currently conducting additional preclinical studies of our XLRS product candidate that are required for submission of an IND to the FDA. These studies include single-dose toxicology studies in mice and nonhuman primates, the design of which is based on specific guidance from the FDA's Office of Cellular, Tissue and Gene Therapy received in early 2013. These studies will evaluate the safety and distribution of the AAV-RS1 vector in animals after the product candidate is delivered by intravitreal injection. Dosing of mice and nonhuman primates in these two studies was completed in June 2014 and we expect that data for submission as part of an IND will be available by December 2014.

Planned clinical development of our XLRS product candidate

We are currently conducting a natural history study in persons affected by XLRS. This study will document the progression of the disease in the absence of treatment, and its results will provide important information about the best methods for measuring visual function in these patients and will guide us in the design of subsequent clinical trials in which our product candidate will be tested for safety and efficacy. The study is being conducted at three clinical sites that specialize in inherited retinal diseases: the Casey Eye Institute in Portland, Oregon, the Retina Foundation of the Southwest in Dallas, Texas, and the Kellogg Eye Center in Ann Arbor, Michigan.

We plan to submit an IND in late 2014 and initiate a Phase 1/2 clinical trial in early 2015 for our XLRS product candidate in up to 21 patients affected by XLRS. Results of this trial, which we expect to receive in mid-2015, will guide us in finalizing the design of a pivotal Phase 3 clinical trial. In the planned pivotal Phase 3 trial, up to 40 patients will be enrolled and evaluated for changes in visual function over a 12-month period. If successful, we believe the results of this second trial could support submission of a Biologics License Application, or BLA, to the FDA in the United States and a Marketing Authorization Application, or MAA, to the EMA in Europe for our XLRS product candidate.

Congenital achromatopsia

ACHM is an inherited retinal disease characterized by the lack of cone photoreceptor function. Cone photoreceptors are concentrated in the macula and the fovea. ACHM is present from birth and throughout life. Individuals with this condition have no cone photoreceptor function, markedly reduced visual acuity, photophobia, or light sensitivity, and complete loss of color discrimination. Their only functioning photoreceptors are rod photoreceptors, which respond to low intensity light conditions and mediate night vision but cannot achieve fine visual acuity. Best-corrected visual acuity in persons affected by ACHM, even under subdued light conditions, is usually about 20/200, a level at which people are considered legally blind. They also experience extreme light sensitivity resulting in even worse visual acuity under normal daylight conditions, or day blindness.

ACHM can be caused by mutations in any of at least five genes that are required for normal cone photoreceptor function. The most common causes are mutations in the CNGB3 gene (about half of all cases) or CNGA3 gene (about one-fourth of all cases). These genes encode the CNGB3 and CNGA3 proteins, which combine to form a channel in the photoreceptor membrane that is required for phototransduction, the process whereby a light signal is converted to an electrical signal that is then transmitted to the brain. According to *Retinal Dystrophies and Degenerations* (1988), the incidence rate for ACHM is approximately one in 30,000 people, and we therefore estimate that there are about 10,000 people in the United States and about 17,000 people in Europe with ACHM. Of these, about half, or a total of 13,500 in the United States and Europe combined, have the form of the disease caused by mutations in the CNGB3 gene.

There is currently no specific treatment for ACHM. Symptoms are managed by the use of dark lenses to reduce discomfort from ambient light, and low vision aids such as high-powered magnifiers for reading. Children with ACHM are provided preferential seating in the front of classrooms to benefit maximally from their magnifying devices.

Our ACHM product candidates

Our gene therapy approach to treatment of ACHM involves using an AAV vector to insert a functional copy of the CNGB3 or CNGA3 gene into the patient's own photoreceptor cells. Our first ACHM product candidate contains the CNGB3 gene and a promoter, the PR1.7 promoter, that has been shown in preclinical studies to drive efficient gene expression in primate cone photoreceptors and restores cone photoreceptor function in dog and mouse models of achromatopsia. We have identified an AAV capsid that works well for subretinal delivery and are evaluating additional AAV capsids to identify those that work well for intravitreal delivery that could be used in follow-on products.

After our ACHM product candidate containing the functional CNGB3 gene enters a photoreceptor cell, the gene is processed by normal biochemical processes into a stable DNA episome in the nucleus of the cell. The stable form of the gene allows production of the normal CNGB3 protein, which combines with the normal CNGA3 protein already being produced in the cell, to form a channel in the photoreceptor membrane that is required for phototransduction. Restoration of phototransduction enables cone photoreceptors to convert light entering the eye into an electrical signal that is transmitted to other retinal neurons and then to the visual cortex in the brain. Production of normal CNGB3 protein continues as long as the episome persists in the cell, which may be for many years or even life-long, thereby providing long-term potential benefit after a one-time therapeutic administration.

There are several other genes in which mutations are known to cause ACHM, with signs and symptoms that are the same as in ACHM caused by CNGB3 mutations. AAV vectors expressing these genes would be additional potential product candidates for treatment of ACHM caused by mutations in these genes, and we believe they would have the potential for rapid regulatory approval, if our product candidate for ACHM caused by CNGB3 mutations were already approved. Mutations in the CNGA3 gene are responsible for about 25% of ACHM cases in the US and Europe but are responsible for almost all cases in patients from the Middle East. Proof-of-concept efficacy after subretinal injection of AAV vectors expressing CNGA3 has also been demonstrated in mouse and sheep models of CNGA3-related ACHM.

We expect to begin IND-enabling studies for our CNGA3-related ACHM product candidate during the second half of fiscal year 2015.

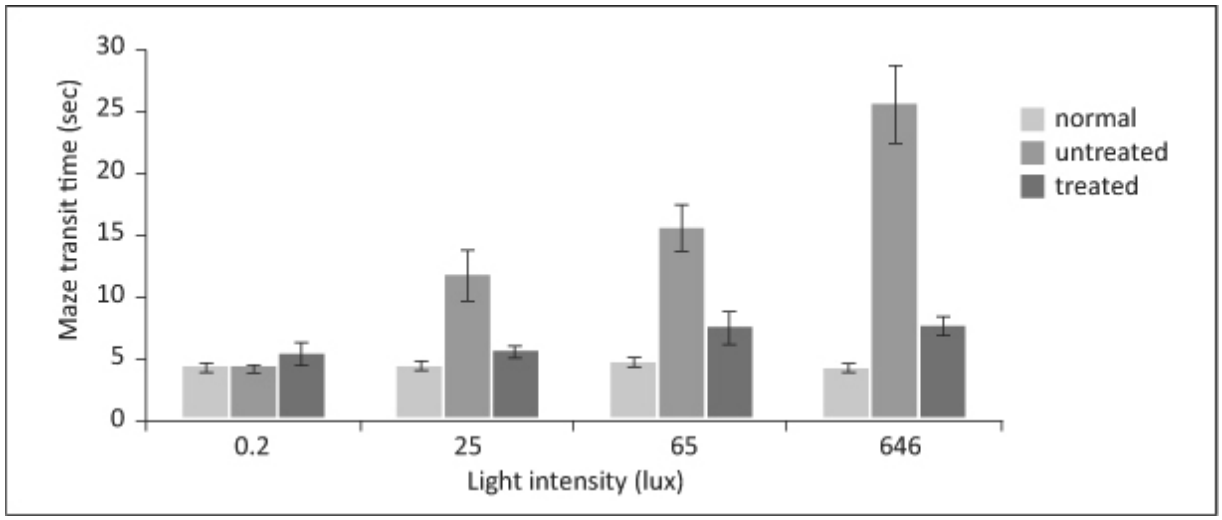
Preclinical proof of concept for our ACHM product candidates

In mouse and dog models of ACHM, our product candidate was able to restore photoreceptor function, improve visual acuity and mitigate photophobia and day blindness.

ACHM occurs in two breeds of dogs, Alaskan malamutes and German shorthaired pointers, due to mutations in the CNGB3 gene that either produce an abnormal protein or completely prevent production of the protein. Both breeds have clinical characteristics similar to human ACHM patients, with day blindness and absence of retinal cone function as measured by ERG. Treatment by subretinal injection of an AAV vector expressing human CNGB3 restored cone function in dogs with either mutation. Cone-specific ERG responses were undetectable in these dogs before treatment but were clearly detected after treatment. Day blindness was demonstrated before treatment by testing the ability of the dogs to navigate a maze under progressively brighter conditions. Before treatment, it took the ACHM dogs progressively longer to navigate the maze as the ambient light increased from dim light to normal room lighting and even longer with normal outdoor daytime lighting. After treatment, the day blindness was substantially eliminated, and the treated ACHM dogs were able to navigate the maze under bright light conditions at almost the same speed as normal dogs.

The figure below shows the average time taken to navigate a maze as the ambient light intensity was increased for three groups of dogs: normal dogs, dogs with ACHM that were untreated and dogs with ACHM that were treated with our ACHM product candidate. The figure shows that under low light conductions (0.2 lux,

equivalent to the light conditions on a moonlit night), when vision is normally mediated only by rod photoreceptors, all three groups navigated the maze rapidly. As the light intensity was progressively increased (to 646 lux, equivalent to the light conditions in a business office), and vision became mediated by cone photoreceptors, the untreated ACHM dogs took progressively longer to navigate the maze, as they bumped into walls in the maze and had to advance by trial and error. In contrast, as the light intensity was progressively increased, the time taken to navigate the maze did not change for normal dogs and increased only slightly for the treated ACHM dogs.



Based on Komaromy et al. *Human Molecular Genetics* (2010)

Untreated ACHM dogs also demonstrated photophobia and day blindness when outdoors in daylight, which severely limited their ability to interact with people and objects in their environment. After treatment there was a dramatic improvement in this important clinical manifestation of ACHM. The restored function persisted for more than 2.5 years (the longest duration tested).

In addition, a mouse model of ACHM was developed by knocking out the CNGB3 gene in mice. These knockout mice have markedly impaired cone photoreceptor function, as measured by ERG and visual acuity testing. Treatment by subretinal injection of an AAV vector expressing human CNGB3 in the knockout mice improved cone-specific ERG responses to nearly normal levels and improved visual acuity, as measured by their ability to follow a rotating pattern of vertical stripes of varying thickness.

We are conducting additional preclinical studies required for submission of an IND to the FDA. This will include single-dose toxicology studies in mice and nonhuman primates, the design of which will be based on guidance from the FDA's Office of Cellular, Tissue and Gene Therapy in the form of a pre-IND meeting to be held in October 2014. These studies will evaluate the safety and distribution of our ACHM product candidate after delivery by both subretinal and intravitreal injection.

In conjunction with scientists based in Israel, we have initiated a preclinical study involving a product candidate for CNGA3-related ACHM, which uses the same promoter and capsid used in our CNGB3 product candidate, to evaluate its safety and efficacy in the sheep model of the disease. We have also initiated a natural history study in patients with CNGA3-related ACHM in the U.S. and Israel.

Planned clinical development of our CNGB3-related ACHM product candidate

We are currently conducting a natural history study in persons affected by ACHM caused by CNGB3 mutations. Results of this study will provide important information about the best methods for measuring visual

function in these patients and will guide us in the design of subsequent clinical trials in which our product candidate will be tested for safety and efficacy. This study is being conducted at five clinical sites that specialize in inherited retinal diseases: the Bascom Palmer Eye Institute in Miami, Florida, the Casey Eye Institute in Portland, Oregon, the Chicago Lighthouse in Chicago, Illinois, the Medical College of Wisconsin in Madison, Wisconsin and Vitreo Retina Associates in Gainesville, Florida.

After completing the ongoing preclinical studies required for submission of an IND to the FDA, we plan in early 2015 to submit an IND and to initiate a Phase 1/2 clinical trial of our ACHM product candidate in up to 21 persons affected by ACHM caused by mutations in the CNGB3 gene. We will test the safety and efficacy of the ACHM product candidate administered by subretinal injection. Results of this trial, which we expect to receive in late 2015, will guide us in finalizing the design of a pivotal Phase 3 clinical trial. In the planned pivotal Phase 3 trial, we expect that up to 40 patients will be enrolled and evaluated for changes in visual function over a 12-month period following treatment. If successful, we believe the results of this pivotal Phase 3 trial could support our submission of a BLA to the FDA and of an MAA to the EMA for our ACHM product candidate.

X-linked retinitis pigmentosa

Retinitis pigmentosa is an inherited retinal dystrophy with progressive loss of vision. It is commonly first observed in boys and young men who notice problems with vision under low light conditions, or night blindness, followed by a restriction of peripheral visual fields, or tunnel vision, leading to poor central vision and eventual total blindness.

The incidence rate for retinitis pigmentosa is about one in 4,000 people, according to *Retinitis Pigmentosa* (1988), and we estimate that there are about 75,000 people in the United States and 125,000 people in Europe with retinitis pigmentosa, or 200,000 people in the United States and Europe combined. According to a paper by Dr. Marianne Haim published in *Acta Ophthalmologica* (1992), about 10% of cases of retinitis pigmentosa are caused by mutations in a gene on the X chromosome and are referred to as X-linked retinitis pigmentosa, or XLRP, from which we therefore estimate that there are about 20,000 persons with XLRP in the United States and Europe combined.

A preclinical study in a dog model of XLRP caused by mutations in the RPGR gene demonstrated a delay in the rate of disease progression in eyes that received a subretinal injection of an AAV vector expressing RPGR. We have inserted a stable form of the RPGR cDNA into an HSV helper to produce our XLRP product candidate and are currently designing preclinical studies to further evaluate the ability of this product candidate to delay disease progression in animal models of XLRP. If these studies are successful, we will conduct additional preclinical studies required for submission of an IND to the FDA. These studies will include single-dose toxicology studies in animals that will evaluate the safety and distribution within the animals after our XLRP product candidate is delivered by both subretinal and intravitreal injection.

Other opportunities in ophthalmology

We believe our current gene therapy platform will enable us to develop and test new AAV vectors that carry different gene sequences for other inherited diseases in ophthalmology, reducing the need for early research work. In this way, we anticipate being able to move products rapidly through preclinical studies and into clinical development. We also believe that there are large market ophthalmology diseases where AAV vectors may provide benefit, such as wet AMD.

Wet AMD

Age-related macular degeneration, or AMD, is a retinal disease that usually affects older adults and results in a loss of vision in the center of the visual field (the macula). It is a major cause of blindness and visual

impairment in older adults and occurs in “dry” and neovascular, or “wet,” forms. In the wet form, abnormal growth of blood vessels in the retina is stimulated by a protein called vascular endothelial growth factor, or VEGF. The abnormal blood vessel growth, or neovascularization, causes vision loss due to blood and protein leakage below the macula. A paper by Friedman et al. published in Archives of Ophthalmology (2004) estimated the total number of persons with wet AMD in the United States is about 1.2 million, from which we estimate there are about 3.2 million persons with wet AMD in the United States and Europe combined.

Wet AMD is currently treated with intravitreal injections of anti-VEGF agents delivered every one to two months, for an indefinite period. While these VEGF-targeted therapies have proven efficacious for many patients, there is an urgent medical need to improve on the approximately 35% success rate for existing therapies by targeting other critical factors, and to reduce the burdensome injection frequency for patients and physicians.

Based on our proof-of-concept studies, we believe that gene therapy offers a potential long-term solution to treat wet AMD with one injection. Additionally, as in the case of “cocktail” treatment paradigms in oncology, there is a strong rationale for combination therapy to become the standard of care in wet AMD. For instance, we are aware that others are conducting Phase 3 trials of an anti-platelet-derived growth factor, or PDGF, agent in combination with anti-VEGF agents for wet AMD. We believe that, while the predictability of targeting VEGF itself would mitigate development risk, the most compelling gene therapy approach would offer not only sustained expression but also pathway synergy with existing anti-VEGF options. We have defined our preferred target profile and are proceeding with a comprehensive review of possible targets.

The development pathway for wet AMD therapies has been well-established. Preclinical CROs offer highly predictive animal models that reproduce the neovascularization typical of wet AMD in humans and yield results within a few months. In the clinic, physicians can readily detect therapeutic effects by measuring visual function with an eye chart and anatomical biomarkers using widely available imaging devices. We intend to test several lead targets head-to-head in animal models. If sufficient rationale exists for more than one target, we will investigate deploying one viral vector to address multiple targets. Given our experience gained from our prior partnership with Genzyme, our already-established manufacturing infrastructure and our planned regulatory path, we expect to be able to file an IND for a wet AMD product candidate within 18 to 24 months.

Other autosomal recessive retinal diseases

As of June 30, 2014, 220 genes causing inherited retinal disease have been identified, of which 146 are autosomal recessive and therefore most amenable to treatment by gene therapy. Among the 42 most common autosomal recessive forms of retinitis pigmentosa, LCA and cone or cone-rod dystrophy, 38 have gene coding regions of less than 3,760 nucleotides and can therefore be readily accommodated within our AAV vectors. We are continuing to evaluate indications having these characteristics to select those most appropriate for addition to our longer-term product development pipeline.

Proof-of-concept programs beyond ophthalmology; our alpha-1 antitrypsin deficiency product candidate

We also plan to pursue gene therapy programs that target muscle cells via direct intramuscular injections or vascular delivery, to leverage the unique properties of AAV vectors. For example, in one of our first proof-of-concept programs, we have developed a product candidate for the treatment of AAT deficiency, which is characterized by reduced serum levels of AAT protein and increased risk of developing emphysema and liver disease. AAT normally functions to prevent lung tissue damage.

AAT deficiency is implicated in 2.7% of all deaths due to obstructive pulmonary disease among persons in the 35-44 year-old age group, and emphysema is the most common cause of death in AAT-deficient patients, accounting for about 72% of cases. According to the National Institutes of Health Genetics Home Reference, the incidence rate for AAT deficiency is between one in 1,500 and one in 3,500 people of European ancestry, and an

article by de Serres and Blanco in Therapeutic Advances in Respiratory Disease (2013) estimates that there are approximately 44,000 people in North America and 74,000 people in Northern and Central Europe with the most severe form of AAT deficiency, or about 118,000 people in the United States and Europe combined.

Prevention of lung disease in AAT deficiency is well-understood, since the presence of serum AAT levels of 11 μM or higher is considered to be an indicator of protection from tissue damage. AAT augmentation therapy, consisting of intravenous infusions of AAT protein purified from plasma obtained from healthy human donors, can achieve effective serum levels of AAT. However, the annual cost of augmentation therapy, administered by weekly intravenous infusions over the lifetime of the patient, can be more than $100,000 per year.

Our alternative, gene therapy approach involves using an AAV vector to insert a functional copy of the normal AAT gene into the patient's muscle cells. In preclinical studies, our AAT deficiency product candidate was evaluated in single-dose toxicology studies in mice and rabbits. These studies demonstrated that vector administration was not associated with clinical signs of toxicity and there were no adverse effects on hematology or serum chemistry parameters or gross pathology findings. We plan to perform an additional toxicology study in monkeys to evaluate administration of our AAT deficiency product candidate to muscle cells by a vascular route of delivery that in animals was able to achieve much higher serum levels compared to direct intramuscular delivery.

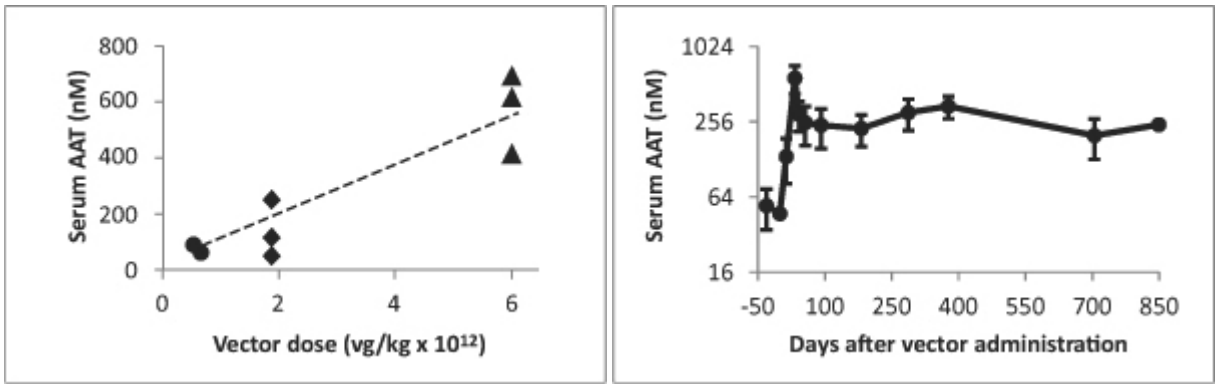
We have had extensive dialogue with the FDA, the EMA and other regulatory authorities and advisory bodies concerning the clinical advancement of our AAT deficiency product candidate. We have made the following progress in the clinical development of our AAT deficiency product candidate:

- our AAT deficiency product candidate was granted an orphan drug designation by the FDA and by the EMA for the treatment of AAT deficiency;
- we received a $1.1 million grant to conduct the Phase 2 trial from the FDA;
- we had a type B pre-IND meeting with the FDA in 2004, during which the FDA provided guidance on the manufacturing, nonclinical and clinical development of our AAT deficiency product candidate;
- the NIH RAC reviewed our draft protocols for the Phase 1 and Phase 2 clinical trials and its recommendations were incorporated into the final protocol and informed consent documents;
- we submitted our IND in 2005 and have conducted two clinical trials under this IND and no safety issues attributed to the vector have been seen;
- we received Scientific Advice from the EMA's Committee for Medicinal Products for Human Use, or CHMP, in 2010 related to the manufacturing, nonclinical and clinical development of our AAT deficiency product candidate; and
- we have had several type C meetings with the FDA focused on the manufacturing, nonclinical and clinical development of our AAT deficiency product candidate, most recently in April 2014.

Our AAT deficiency product candidate has been evaluated in two clinical trials in 18 patients with AAT deficiency. Both trials were designed to evaluate the product candidate's safety and ability to achieve sustained expression of normal AAT protein in the serum. In these trials, there were no serious adverse events attributed to administration of our product candidate. One patient developed bacterial epididymitis and one patient developed diverticulitis, each of which events was considered unrelated to our product candidate. In a Phase 2a trial, concentrations of normal AAT increased linearly in direct proportion to the dose and these AAT levels were sustained for more than two years.

The figure below left shows serum concentrations of normal AAT in subjects who received different doses of the AAT deficiency vector. There was a linear relationship between the increase in serum AAT concentration

and the increase in vector dose. The figure below right shows average serum concentration of AAT over time in the group that received the highest vector dose. Serum AAT concentration increased within 30 days and remained significantly above baseline levels for more than two years.



The figure on the left is based on data published by Flotte et al. *Human Gene Therapy* (2011). The figure on the right is based on AGTC human clinical trial data.

Although we observed sustained expression of AAT for more than two years, the serum AAT concentrations were lower than the target of 11 μM that is necessary for adequate protection of the lungs. However, we have established that in animals, delivering AAV vectors to muscle cells using a vascular method can achieve much higher serum levels than when the vector is delivered by direct injection into muscles. We are currently conducting additional nonclinical studies of this new method for delivering our AAT deficiency product candidate to muscle cells, including a toxicology and biodistribution study for which animals completed dosing in June 2014 and a study comparing direct intramuscular injection with the vascular delivery method that completed dosing in July 2014. We expect to submit results of these studies in an amendment to our existing IND intended to allow us to initiate a Phase 2b trial in early 2015 in which our AAT deficiency product candidate will be administered in up to six patients with AAT deficiency using the vascular delivery method.

Other non-ophthalmology product opportunities

As we further develop the AAT program, we will investigate the opportunity to expand to other indications where high levels of circulating proteins are important.

Manufacturing

Until recently, there has been a lack of manufacturing infrastructure to enable the production of gene therapies in a reliable and reproducible manner at a commercially viable scale. The historical challenges for gene therapy manufacturing relate to the difficulty of developing constructs that provide the necessary helper functions, and in having systems that provide adequate yield, scalability and potency. We have made significant investments in developing improved manufacturing processes, which include the following:

- We have developed proprietary AAV vector manufacturing processes and techniques that produce a more purified and concentrated product candidate, as evidenced by the approximately 25- to 30-fold reduction in non-infectious viral contaminants as compared to vectors used in many previous clinical trials.
- We do not need a specially cloned and isolated cell line for each of our disease targets; we instead use specially engineered replication-incompetent herpes simplex helpers, or HSV helpers, which are stable and straightforward to clone.

- We have developed approximately 30 assays to accurately characterize our process and the HSV and AAV vectors we produce.
- We have developed a purification system applicable to multiple AAV capsids.
- We are investing in the development of mid- to large-scale manufacturing processes to enable the manufacture of our product candidates at commercial scale.

We believe these improvements and our continued investment in our manufacturing platform will enable us to develop best-in-class, next generation gene therapy products.

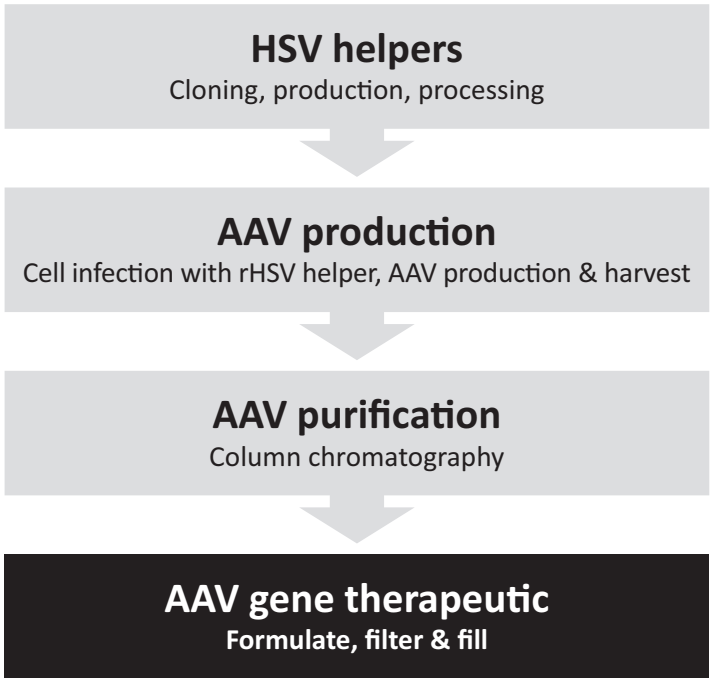
Our viral vector production platform for AAV-based gene therapeutics, which we call the herpes-assisted vector expansion, or HAVE method, offers significant benefits in comparison with the methods used by others to manufacture AAV vectors, as summarized in the following table.

AAV production method	Straightforward cloning	High efficiency	High yield	Scalable
Transfection	Yes	No	No	No
Baculovirus	No	No	Yes	Yes
Adenovirus	No	Yes	Yes	Yes
Our HAVE method	**Yes**	**Yes**	**Yes**	**Yes**

The four key steps involved in our proprietary HAVE manufacturing method are as follows:

- First, the therapeutic gene and the appropriate AAV capsid genes are inserted into individual HSV helpers, and these helpers are individually grown in a complementing cell line called V27. The complementing cell line is required to provide critical functions that allow the replication-incompetent HSV helpers to grow; the same cell line is used to produce HSV helpers for all disease targets. This step occurs in disposable culture vessels of increasing size, up to and including disposable stirred tank bioreactors. The HSV helpers are harvested, minimally processed and concentrated to prepare them for use in producing our AAV vectors. These HSV helpers can be stored frozen for years before use.
- Next, the two HSV helpers are used together to infect a cell line called sBHK, allowing for packaging of the therapeutic gene into the AAV capsid and to produce our AAV vectors. The sBHK cell line does not provide the critical functions that would allow for growth of the HSV helpers, which provides an added layer of safety. The same sBHK cell line is used to produce AAV vectors for all disease targets. This step occurs in disposable culture vessels of increasing size depending on the amount of AAV vector that is required. The AAV vector is recovered by using a detergent solution to break open the sBHK cells and release the AAV vectors. This step also destroys any residual HSV helpers that were used to infect the sBHK cells.
- The third step is to purify the harvested AAV vector using two chromatography columns. The exact method used to column-purify our AAV vectors varies depending on the AAV capsid used in the product candidate; we have developed purification methods for multiple AAV capsids. We have shown in formal clearance studies that the combination of detergent treatment and two chromatography columns can remove up to 10^{14} (100 trillion) units of HSV. This step also helps to eliminate any remaining parts, such as proteins or DNA, of the HSV helpers and sBHK production cells.
- The final step is to formulate, filter and fill the AAV vector in appropriate containers for use in animal or human studies. This filled AAV vector drug product can be stored frozen for years before use.

HAVE Production of our AAV Vectors for Gene Therapy



The HAVE method is inherently flexible, allowing the manufacture of a wide range of AAV vectors without the need to modify the manufacturing steps used to produce the HSV helpers or AAV vectors. We have already demonstrated our manufacturing knowledge through multiple successful production batches of both HSV helpers and AAV vectors at SAFC Pharma, our contract manufacturing organization, under current good manufacturing practices, or GMP.

Research is already underway to meet our future manufacturing needs. Projects include scale-up to larger batch production for use in our AAT deficiency program, continued modifications of the purification step to accommodate new AAV capsids, complete removal of animal-derived products from the V27 cell growth step, and formulations that allow for higher AAV vector concentrations.

We are also in the process of acquiring capital equipment and staffing a facility capable of process development and non-cGMP manufacturing at 100 L scale. Such a facility would enable us to complete all process development at final manufacturing scale appropriate for many indications prior to transfer of manufacturing to a cGMP facility, giving us better control of our future manufacturing requirements.

Strategic collaborations and acquisitions

We have formed strategic alliances where both parties contribute expertise to enable the discovery and development of potential gene therapy product candidates. To access the substantial funding and other resources required to develop and commercialize gene therapy products, we intend to seek other opportunities to form strategic alliances with collaborators who can augment our industry-leading gene therapy expertise.

As an example we entered into an agreement with SAFC Pharma, which also is our current contract manufacturing organization, for cGMP manufacture of clinical grade material for third parties. This arrangement allows us to approach other gene therapy companies that might benefit from our manufacturing and vector design capabilities. Under such an arrangement, we could potentially license our manufacturing technology and receive upfront payments, milestones and royalties. SAFC Pharma would do the manufacturing of commercial grade material.

Our plan to bring in-house a pilot manufacturing facility will further support these efforts. Such a facility will allow us to manufacture small amounts of non-clinical grade material for other gene therapy companies as they perform their pre-clinical experiments. It will also enable us to develop additional expertise in viral vector design as we look to forge partnerships and alliances within the gene therapy space.

We also plan to continue to in-license additional intellectual property to support our current programs, to establish new development programs and to support our manufacturing technology. Additionally we will seek to partner with both new commercial gene therapy companies and academic institutions to leverage our expertise in vector design, research, manufacturing and the regulatory process. The goal of these collaborations would be to forge strategic partnerships around technologies and programs that would fit with our current development pipeline. In general, we would seek new intellectual property, development programs in rare diseases, pipeline products where the regulatory pathway is understood, partners with strong scientific, clinical and management expertise, and programs that have synergy with our current knowledge base and product pipeline that would add to our industry leadership. We would also be looking at programs where the disease being treated has a large enough patient population that there would be adequate financial returns for the investment of resources.

We will also evaluate opportunities to add products, technology and talent in areas consistent with our strategy through selective acquisitions.

Our license to Genzyme

In 2004, we entered into a collaboration agreement with Genzyme to develop a recombinant AAV product to treat wet AMD. Our agreement originally provided that the parties would share responsibility for planning, budgeting, workload, decision-making, costs and future revenues. The parties had joint ownership of any intellectual property that arose as a direct result of the work done for the partnership. In collaboration with Genzyme, early product development work, production of materials for animal studies, development of several manufacturing and clinical assays, completion of IND-enabling toxicology and biodistribution studies, technology transfer of our HSV-based manufacturing process to Genzyme, production of the AAV vector under GMP for the Phase 1 human clinical trial, and drafting of the IND were conducted.

In early 2010, as the product candidate was moving into human clinical trials required for wet AMD, we renegotiated our agreement to take the form of a license of our HSV-based manufacturing technology and interest in the wet AMD program to Genzyme. The license provides for modest late-stage milestone payments to us and royalties on sales, as well as forgiveness of our share of development costs from mid-2006 to the date the license was signed. Genzyme is responsible for all further development and commercialization of the wet AMD product candidate. We maintain non-exclusive rights to jointly developed technology. Genzyme also has options, expiring in 2015 and 2017, to license our manufacturing technology, as it existed at the time of the license, for specified genes associated with diseases outside our current area of focus. Genzyme has informed us that it no longer intends to use our HSV-based manufacturing technology to produce the AAV vector being used for the wet AMD product. Our license agreement with Genzyme was further amended in December 2013 to reflect this fact and, among other things, to terminate our exclusive license to Genzyme for use of our HSV-based manufacturing technology in wet AMD except as to specified pending research activities, and to eliminate restrictions on our activities in the field of treatments for ocular neovascularization disorders, including AMD.

We currently do not expect to derive substantial revenue from our license to Genzyme.

Our relationship with the University of Florida

All of our scientific founders spent part of their careers at the University of Florida, or UF, and three are still UF faculty members. Since our inception we have licensed significant technology from and funded research at multiple labs at UF. Pursuant to four agreements, we have licensed three U.S. patents and multiple pending applications covering inventions made at UF. UF has multiple capabilities in genetic cloning, gene therapy

manufacturing, animal model development and facilities for both small and large animal testing, and in certain instances we have benefited from the ability to conduct important research at UF without having to expand in-house facilities and personnel. We interact frequently with the Powell Gene Therapy Center at UF and have an excellent working relationship with the UF Office of Technology Licensing.

In May 2013, we and UF were jointly awarded an $8.3 million dollar grant from the NEI to support development of our ACHM product candidate, with Dr. William Hauswirth, one of our scientific founders and Professor and holder of the Rybaczki-Bullard Chair in the Department of Ophthalmology at UF, as principal investigator. As a sub-awardee, as of June 30, 2014, we had received $0.4 million and we expected to receive an additional $3.5 million over four years under this grant.

Our relationships with patient advocacy groups and academic centers

We have long believed that when developing products to treat orphan indications it is important to form strong relationships with patient advocacy groups, and we have done this successfully with both the Foundation Fighting Blindness, or FFB, and the Alpha-1 Foundation. Both organizations are well known for their advocacy of patients' interests in obtaining diagnosis, developing treatments and providing for reimbursement. Both actively support research into treatment, and we have been awarded three research grants totaling $1.6 million from the FFB and one grant of $0.3 million from the Alpha-1 Foundation. More importantly, both organizations have been instrumental in assisting us in forming ties with disease experts, recruiting patients into clinical trials and helping us to understand the needs, wants and concerns of patients.

We also have formed strong relationships with key academic centers across the United States that have core competencies in gene therapy, orphan ophthalmology and AAT deficiency. These centers conduct sponsored research, act as advisors and collaborate with us on grant proposals. We have been awarded grant funding aggregating $10.6 million between our inception and June 30, 2014, either independently or with our collaborators. This funding provides peer-reviewed scientific validation of our programs and has facilitated critical early stage research for our leading product candidates.

Intellectual property

We strive to protect and enhance the proprietary technology, inventions, and improvements that are commercially important to the development of our business, including seeking, maintaining and defending patent rights, whether developed internally or licensed from third parties. We also rely on trade secrets relating to our proprietary technology platform and on know-how, continuing technological innovation and in-licensing opportunities to develop, strengthen and maintain our proprietary position in the field of gene therapy that may be important for the development of our business. We additionally rely on regulatory protection afforded through orphan drug designations, data exclusivity, market exclusivity, and patent term extensions where available.

Our commercial success may depend in part on our ability to obtain and maintain patent and other proprietary protection for commercially important technology, inventions and know-how related to our business; defend and enforce our patents; preserve the confidentiality of our trade secrets; and operate without infringing the valid enforceable patents and proprietary rights of third parties. Our ability to stop third parties from making, using, selling, offering to sell or importing our products may depend on the extent to which we have rights under valid and enforceable patents or trade secrets that cover these activities. With respect to both licensed and company-owned intellectual property, we cannot be sure that patents will be granted with respect to any of our pending patent applications or with respect to any patent applications filed by us in the future, nor can we be sure that any of our existing patents or any patents that may be granted to us in the future will be commercially useful in protecting our commercial products and methods of manufacturing the same.

We have developed or in-licensed numerous patents and patent applications and possess substantial know-how and trade secrets relating to the development and commercialization of gene therapy products. Our proprietary intellectual property, including patent and non-patent intellectual property, is generally directed to, for example, certain genes, methods of transferring genetic material into cells, processes to manufacture our AAV-based product candidates and other proprietary technologies and processes related to our lead product candidates.

As of September 8, 2014, our patent portfolio included approximately 48 patents and patent applications that we own and approximately 64 patents and patent applications that we have licensed. More specifically, we own five U.S. patents, four pending U.S. applications, 25 foreign patents and 14 foreign patent applications. We have licensed 22 U.S. patents, four pending U.S. applications, 35 foreign patents and three pending foreign patent applications. Of the patents and patent applications that we own or license, 32 cover methods to manufacture AAV vectors, the longest lived and most significant of which is expected to expire in 2025. Ten of the patent applications that we own are directed to small cone promoters and uses thereof. A patent issuing from this group could have an expiration date in 2034.

Our objective is to continue to expand our portfolio of patents and patent applications in order to protect our gene therapy product candidates and AAV manufacturing process. Our owned and licensed patent portfolio includes patents and patent applications directed to our AAT deficiency, XLRS and ACHM programs, as well as our foundational AAV platform. See also "—License agreements."

In addition to the above, we have established expertise and development capabilities focused in the areas of preclinical research and development, manufacturing and manufacturing process scale-up, quality control, quality assurance, regulatory affairs and clinical trial design and implementation. We believe that our focus and expertise will help us develop products based on our proprietary intellectual property and to expand our intellectual property.

The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, the patent term is 20 years from the date of filing the non-provisional application. In the United States, a patent's term may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the United States Patent and Trademark Office in granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier-filed patent. The issued patents that we own and license are expected to expire on various dates from 2016 to 2029.

The term of a patent that covers an FDA-approved drug may also be eligible for patent term extension, which permits patent term restoration of a U.S. patent as compensation for the patent term lost during the FDA regulatory review process. The Hatch-Waxman Act permits a patent term extension of up to five years beyond the expiration of the patent. The length of the patent term extension is related to the length of time the drug is under regulatory review. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval and only one patent per approved drug may be extended. Moreover, a patent can only be extended once, and thus, if a single patent is applicable to multiple products, it can only be extended based on one product. Similar provisions are available in Europe and other foreign jurisdictions to extend the term of a patent that covers an approved drug. When possible, depending upon the length of clinical trials and other factors involved in the filing of a new drug application, or NDA, we expect to apply for patent term extensions for patents covering our product candidates and their methods of use.

We may rely, in some circumstances, on trade secrets to protect our technology. However, trade secrets can be difficult to protect. We seek to protect our proprietary technology and processes, in part, by entering into confidentiality agreements with our employees, consultants, scientific advisors and contractors. We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we have confidence in these individuals, organizations and systems, agreements or security measures may be breached, and we may

not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. To the extent that our consultants, contractors or collaborators use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions.

License agreements

We have rights to use and exploit multiple issued and pending patents under licenses from other entities. We consider the commercial terms of these licenses, which provide for modest milestone and royalty payments, and their provisions regarding diligence, insurance, indemnification and other similar matters, to be reasonable and customary for our industry.

Information about our principal licenses is set forth below. The aggregate amount of all cash up-front payments that we have made pursuant to the license agreements described below is $0.2 million, all of which is included in our historical results of operations.

University of Florida. We currently have four license agreements with the University of Florida Research Foundation, or UFRF, an affiliate of UF:

- A license from UFRF signed in September 2001 relates to the AAV construct containing the AAT gene and the method to treat AAT deficiency using this construct. We have an exclusive license in all fields of use.

  Under the terms of this license, we made cash and stock-based up-front payments to UFRF and are required to make payments ranging from the mid-five figures to the low-six figures based upon development, regulatory and commercial milestones for any products covered by the in-licensed intellectual property. Assuming that we meet each of the specified development, regulatory and commercial milestones not more than once for each product, which we expect will be the case, the maximum aggregate milestone payments payable under this license with respect to any individual product that we commercialize will be $0.3 million. We will also be required to pay a royalty on net sale of products covered by the in-licensed intellectual property in the mid-single digits. The royalty is subject to reduction for any third-party payments required to be made, with a minimum floor in the low single digits. We have the right to sublicense our rights under this agreement, and we will be required to pay a percentage of such license income in the low-double digits. We are required to make annual maintenance payments in the low four figures under this license, which payments are creditable against royalty payments on a year-by-year basis.

  This license will terminate upon the expiration of all of the patents subject to the license. Additionally, UFRF may terminate this license upon certain breaches by us of the terms of the license and we may terminate the license at any time by submitting written notice to UFRF.

  The longest-lived patent covered by this license is expected to expire in 2019.

- A joint license from UFRF and Johns Hopkins University, or JHU, signed in October 2003 relates to a particular HSV construct and various compositions thereof. We have an exclusive license in all fields of use.

  Under the terms of this license, we made cash and stock-based up-front payments to UFRF and JHU and are required to make payments ranging from the mid-five figures to the low-six figures based upon development, regulatory and commercial milestones for any products covered by the in-licensed intellectual property. Assuming that we meet each of the specified development, regulatory and commercial milestones not more than once for each product, which we expect will be the case, the maximum aggregate milestone payments payable under this license with respect to any individual product that we commercialize will be $0.5 million. We will also be required to pay a royalty on net sale of products covered by the in-licensed intellectual property in the mid-single digits. The royalty is

subject to reduction for any third-party payments required to be made, with a minimum floor in the low single digits. We have the right to sublicense our rights under this agreement, and we will be required to pay a percentage of such license income in the low-double digits. We are required to make annual maintenance payments in the low four figures under this license, which payments are creditable against royalty payments on a year-by-year basis.

This license will terminate upon the earlier to occur of the expiration of all of the patents subject to the license and the date on which royalty payments, once commenced, cease for more than three calendar quarters. Additionally, UFRF and JHU may terminate this license upon certain breaches by us of the terms of the license and we may terminate the license at any time by submitting written notice to UFRF.

The longest-lived patent covered by this license is expected to expire in 2018.

- Two licenses from UFRF, signed in September and November 2012, respectively, relate to the use of engineered AAV capsids. We have an exclusive license to the patents covered by the November 2012 license in the fields of ACHM, XLRS and XLRP and a semi-exclusive license in all other fields of orphan ophthalmology. We have a non-exclusive license in all fields of use with respect to the patents covered by the September 2012 license. Currently these patents are most useful for ACHM, XLRS and XLRP but could be important for treating a wide variety of diseases as the mutant capsids have been shown to be able to enter cells more effectively than standard AAV capsids.

  Under the terms of these licenses, we made cash up-front payments to UFRF and are required to make payments ranging from the mid-five figures to the low-six figures based upon development, regulatory and commercial milestones for any products covered by the in-licensed intellectual property. Assuming that we meet each of the specified development, regulatory and commercial milestones not more than once for each product, which we expect will be the case, the maximum aggregate milestone payments payable under these licenses with respect to any individual product that we commercialize will be $0.6 million. We will also be required to pay a royalty on net sale of products covered by the in-licensed intellectual property in the mid-single digits. The royalty is subject to reduction for any third-party payments required to be made, with a minimum floor in the low single digits. We have the right to sublicense our rights under these agreements, and we will be required to pay a percentage of such license income in the low-double digits. We are required to make annual maintenance payments in the mid four figures under these licenses, which payments are creditable against royalty payments on a year-by-year basis.

  These licenses will continue until the expiration of all of the patents subject to the licenses, provided or, if later, a date specified in the license. Additionally, UFRF may terminate this license upon certain breaches by us of the terms of the licenses and we may terminate the licenses at any time by submitting written notice to UFRF.

  The longest-lived patent covered by these licenses is expected to expire in 2029. There are also patent applications pending under these licenses.

University of Alabama at Birmingham. A license agreement from the UAB Research Foundation affiliated with The University of Alabama at Birmingham signed in 2006, relates to one U.S. patent with claims covering the use of HSV helpers to produce AAV vectors. The patent is expected to expire in 2025. Effective in March 2014, we modified the license from non-exclusive to co-exclusive with any then existing licensees.

Under the terms of this license, we made a cash up-front payment to the UAB Research Foundation, and we will be required to make payments ranging from the mid-five figures to the mid-seven figures based upon development and regulatory milestones for any products covered by the in-licensed intellectual property. Assuming that we meet each of these development and regulatory milestones not more than once for each product, which we expect will be the case, the maximum aggregate milestone payments payable under this license with respect to any individual product that we commercialize will be $4.7 million. We will also be

required to pay a royalty on net sale of products covered by the in-licensed intellectual property in the low-single digits or less. The royalty is subject to reduction for any third-party payments required to be made, with a minimum floor in the low single digits. We have the right to sublicense our rights under this agreement, and we will be required to pay a percentage of such license income in the low-double digits. We are required to make annual maintenance payments in the mid-four figures to mid-five figures under this license, which payments are creditable against royalty payments on a year-by-year basis.

This license will terminate upon the expiration of all of the patents subject to the license. Additionally, the UAB Research Foundation may terminate this license upon certain breaches by us of the terms of the license and we may terminate the license at any time by submitting written notice to the UAB Research Foundation.

University of Pennsylvania. In April 2014, we signed an exclusive license agreement with the Trustees of the University of Pennsylvania for intellectual property relating to AAV-mediated gene therapy for X-linked retinal degeneration associated with mutations in the RPGR gene. The patent application was filed in 2013 and upon issue is expected to expire in 2033.

Under the terms of the agreement, we made a cash upfront payment to the University of Pennsylvania and will be required to make payments ranging from the low-five figures to the mid-six figures based upon development, regulatory and commercial milestones for any products covered by the in-licensed intellectual property. Assuming that we met each of the specified development, regulatory and commercial milestones not more than once for each product, the maximum aggregate milestone payments payable under this license with respect to any individual product that we commercialize will be $1.3 million. Prior to commercialization, we are required to spend annually on research, development, regulatory and commercialization expenses a minimum diligence expenditure ranging from the low- to mid-six figures. Upon commercialization, we will be required to pay royalties on the net sale of products covered by the in-licensed intellectual property in the low single digits. The royalty is subject to reduction for any third-party payments required to be made, with a minimum floor ranging from the low single digits or less, depending on the amount of annual net sales. The license is sublicenseable, and should we choose to sublicense we would be required to pay a percentage in the mid-single digits of the sublicense income that we receive. There is an annual maintenance fee for the license ranging from the low four figures to the low five figures. There are also minimum royalties post-commercialization which extend into five figures, which payments are creditable against royalty payments on a year-to-year basis.

This license continues until the expiration of all the patents subject to the licenses or if later, a specified number of years following the first sale of the first product covered by the in-licensed intellectual property. Additionally, we or the University of Pennsylvania may terminate this license upon certain breaches by the other party of the terms of the licenses and we may terminate the licenses at any time by submitting written notice to the University of Pennsylvania.

Competition

The biotechnology and pharmaceutical industries are characterized by intense and rapidly changing competition to develop new technologies and proprietary products, and any product candidates that we successfully develop and commercialize will have to compete with existing therapies and new therapies that may become available in the future. While we believe that our proprietary technology estate and scientific expertise in the gene therapy field provide us with competitive advantages, we face potential competition from many different sources, including larger and better-funded pharmaceutical, specialty pharmaceutical and biotechnology companies, as well as from academic institutions and governmental agencies and public and private research institutions that may develop potentially competitive products or technologies. To the extent that we develop product candidates for indications with larger patient populations, such as wet AMD, we expect to experience particularly intense competition from larger and better funded pharmaceutical companies. Any product candidate for wet AMD that we may develop will compete with established drugs such as Genentech's Lucentis and Avastin and Regeneron's Eylea and new drug candidates being developed by others, including Genzyme, that are currently in clinical trials, as well as other treatment modalities such as photodynamic therapy.

Currently there are no approved products for any of our lead orphan ophthalmology indications of XLRS, ACHM and XLRP. We believe the key competitive factors that will affect the success of our product candidates, if approved, are likely to be their efficacy, safety, convenience of administration and delivery, price, the level of generic competition and the availability of reimbursement from government and other third-party payors.

Many of our potential competitors, alone or with their strategic partners, have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of product candidates, obtaining FDA and other regulatory approvals of treatments and the commercialization of those treatments. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated among a smaller number of our competitors. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market.

Government regulation

Biological products, including gene therapy products, are subject to regulation under the Federal Food, Drug, and Cosmetic Act, or FD&C Act, and the Public Health Service Act, or PHS Act, and other federal, state, local and foreign statutes and regulations. Both the FD&C Act and the PHS Act and their corresponding regulations govern, among other things, the testing, manufacturing, safety, efficacy, labeling, packaging, storage, record keeping, distribution, reporting, advertising and other promotional practices involving biological products. Before clinical testing of biological products may begin, we must submit an IND which must go into effect, and each clinical trial protocol for a gene therapy product candidate is reviewed by the FDA and, in some instances, the NIH, through its Recombinant DNA Advisory Committee, or RAC. FDA approval of a BLA also must be obtained before marketing of biological products. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources and we may not be able to obtain the required regulatory approvals.

Within the FDA, the Center for Biologics Evaluation and Research, or CBER, regulates gene therapy products. The CBER works closely with the NIH and its RAC, which makes recommendations to the NIH on gene therapy issues and engages in a public discussion of scientific, safety, ethical and societal issues related to proposed and ongoing gene therapy protocols. The FDA and the NIH have published guidance documents with respect to the development and submission of gene therapy protocols. The FDA also has published guidance documents related to, among other things, gene therapy products in general, their preclinical assessment, observing subjects involved in gene therapy studies for delayed adverse events, potency testing, and chemistry, manufacturing and control information in gene therapy INDs.

Ethical, social and legal concerns about gene therapy, genetic testing and genetic research have led to the enactment of legislation such as the Genetic Information Nondiscrimination Act of 2008 and could result in additional regulations restricting or prohibiting the processes we may use. Federal and state agencies, congressional committees and foreign governments have expressed interest in further regulating biotechnology. More restrictive regulations or claims that our products are unsafe or pose a hazard could prevent us from commercializing any products. New government requirements may be established that could delay or prevent regulatory approval of our product candidates under development. It is impossible to predict whether legislative changes will be enacted, regulations, policies or guidance changed, or interpretations by agencies or courts changed, or what the impact of such changes, if any, may be.

Recent developments in regulation of gene therapy

Although the FDA has not yet approved any human gene therapy product for sale, it has provided guidance for the development of gene therapy products. For example, the FDA has established the Office of Cellular, Tissue and Gene Therapies, or OCTGT, within CBER, to consolidate the review of gene therapy and related products, and the Cellular, Tissue and Gene Therapies Advisory Committee, or CTGTAC, to advise CBER on its reviews. In addition, the FDA has issued a growing body of clinical guidelines, chemical, manufacturing and control, or CMC, guidelines and other guidelines, all of which are intended to facilitate industry's development of gene therapy products.

In 2012, the EMA approved a gene therapy product called Glybera, which is the first gene therapy product approved by regulatory authorities anywhere in the Western world.

United States biological products development process

The process required by the FDA before a biological product candidate may be marketed in the United States generally involves the following:

- completion of nonclinical laboratory tests and animal studies according to good laboratory practices, or GLP, requirements and applicable requirements for the humane use of laboratory animals or other applicable regulations;
- submission to the FDA of an IND, which must become effective before human clinical trials may begin;
- performance of adequate and well-controlled human clinical trials according to the FDA's regulations commonly referred to as good clinical practices, or GCP, requirements and any additional requirements for the protection of human research subjects and their health information, to establish the safety and efficacy of the proposed biological product candidate for its intended use;
- submission to the FDA of a Biologics License Application, or BLA, for marketing approval that includes substantive evidence of safety, purity, and potency from results of nonclinical testing and clinical trials;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities where the biological product candidate is produced to assess compliance with GMP requirements, to assure that the facilities, methods and controls are adequate to preserve the biological product candidate's identity, strength, quality and purity;
- potential FDA audit of the nonclinical and clinical trial sites that generated the data in support of the BLA; and
- FDA review and approval, or licensure, of the BLA prior to any commercial marketing or sale of the product candidate in the United States.

Before testing any biological product candidate, including a gene therapy product candidate, in humans, the product candidate enters the preclinical testing stage. Preclinical tests, also referred to as nonclinical studies, include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies to assess the potential safety and activity of the product candidate. The conduct of the preclinical tests must comply with federal regulations and requirements including GLP requirements.

Where a gene therapy trial is conducted at, or sponsored by, institutions receiving NIH funding for recombinant DNA research, prior to the submission of an IND to the FDA, a protocol and related documentation is submitted to and the trial is registered with the NIH Office of Biotechnology Activities, or OBA, pursuant to the NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules, or NIH Guidelines. Compliance with the NIH Guidelines is mandatory for investigators at institutions receiving

NIH funds for research involving recombinant DNA, however many companies and other institutions not otherwise subject to the NIH Guidelines voluntarily follow them. The NIH is responsible for convening the RAC, a federal advisory committee, which discusses protocols that raise novel or particularly important scientific, safety or ethical considerations at one of its quarterly public meetings. The OBA will notify the FDA of the RAC's decision regarding the necessity for full public review of a gene therapy protocol. RAC proceedings and reports are posted to the OBA web site and may be accessed by the public.

The clinical trial sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, to the FDA as part of the IND. Some preclinical testing may continue even after the IND is submitted. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA places the clinical trial on a clinical hold within that 30-day time period. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. With gene therapy protocols, if the FDA allows the IND to proceed, and the RAC decides that full public review of the protocol is warranted but did not take place before the IND review is complete, the FDA will request at the completion of its IND review that sponsors delay initiation of the protocol until after completion of the RAC review process. The FDA may also impose clinical holds on a biological product candidate at any time before or during clinical trials due to safety concerns or non-compliance. If the FDA imposes a clinical hold, trials may not recommence without FDA authorization and then only under terms authorized by the FDA. Accordingly, we cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that suspend or terminate such trials.

Clinical trials involve the administration of the biological product candidate to healthy volunteers or patients under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's control. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria, and the parameters to be used to monitor subject safety, including stopping rules that assure a clinical trial will be stopped if certain adverse events should occur. Each protocol and any amendments to the protocol must be submitted to the FDA as part of the IND. Clinical trials must be conducted and monitored in accordance with the FDA's GCP requirements, including the requirement that all research subjects provide informed consent. Further, each clinical trial must be reviewed and approved by an independent institutional review board, or IRB, at or servicing each institution at which the clinical trial will be conducted. An IRB is charged with protecting the welfare and rights of trial participants and considers such items as whether the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the form and content of the informed consent that must be signed by each clinical trial subject or his or her legal representative and must monitor the clinical trial until completed. Clinical trials also must be reviewed by an institutional biosafety committee, or IBC, a local institutional committee that reviews and oversees basic and clinical research conducted at that institution. The IBC assesses the safety of the research and identifies any potential risk to public health or the environment.

Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

Phase 1. The biological product candidate is initially introduced into healthy human subjects and tested for safety. In the case of some product candidates for severe or life-threatening diseases, especially when the product candidate may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.

Phase 2. The biological product candidate is evaluated in a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product candidate for specific targeted diseases and to determine dosage tolerance, optimal dosage and dosing schedule.

Phase 3. Clinical trials are undertaken to further evaluate dosage, clinical efficacy, potency, and safety in an expanded patient population at geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the product candidate and provide an adequate basis for product labeling.

Post-approval clinical trials, sometimes referred to as Phase 4 clinical trials, may be conducted after initial marketing approval. These clinical trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication, particularly for long-term safety follow-up. The FDA recommends that sponsors observe subjects for potential gene therapy-related delayed adverse events for a 15-year period, including a minimum of five years of annual examinations followed by 10 years of annual queries, either in person or by questionnaire, of trial subjects.

During all phases of clinical development, regulatory agencies require extensive monitoring and auditing of all clinical activities, clinical data, and clinical trial investigators. Annual progress reports detailing the results of the clinical trials must be submitted to the FDA. Written IND safety reports must be promptly submitted to the FDA, the NIH and the investigators for serious and unexpected adverse events, any findings from other trials, tests in laboratory animals or in vitro testing that suggest a significant risk for human subjects, or any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The sponsor must submit an IND safety report within 15 calendar days after the sponsor determines that the information qualifies for reporting. The sponsor also must notify the FDA of any unexpected fatal or life-threatening suspected adverse reaction within seven calendar days after the sponsor's initial receipt of the information. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, if at all. The FDA or the sponsor or its data safety monitoring board may suspend a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the biological product candidate has been associated with unexpected serious harm to patients.

Human gene therapy products are a new category of therapeutics. Because this is a relatively new and expanding area of novel therapeutic interventions, there can be no assurance as to the length of the trial period, the number of patients the FDA will require to be enrolled in the trials in order to establish the safety, efficacy, purity and potency of human gene therapy products, or that the data generated in these trials will be acceptable to the FDA to support marketing approval. The NIH and the FDA have a publicly accessible database, the Genetic Modification Clinical Research Information System, which includes information on gene transfer trials and serves as an electronic tool to facilitate the reporting and analysis of adverse events on these trials. Over the last several years the FDA has issued helpful guidance on development of gene therapy products and shown a willingness to work closely with developers, especially with those working in orphan disease areas.

Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the physical characteristics of the biological product candidate as well as finalize a process for manufacturing the product candidate in commercial quantities in accordance with GMP requirements. To help reduce the risk of the introduction of adventitious agents with the use of biological products, the PHS Act emphasizes the importance of manufacturing control for products whose attributes cannot be precisely defined. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the sponsor must develop methods for testing the identity, strength, quality, potency and purity of the final biological product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the biological product candidate does not undergo unacceptable deterioration over its shelf life.

United States review and approval processes

After the completion of clinical trials of a biological product candidate, FDA approval of a BLA must be obtained before commercial marketing of the biological product candidate. The BLA must include results of product development, laboratory and animal studies, human trials, information on the manufacture and composition of the product candidate, proposed labeling and other relevant information. In addition, under the Pediatric Research Equity Act, or PREA, a BLA or supplement to a BLA must contain data to assess the safety and effectiveness of the biological product candidate for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product

candidate is safe and effective. The FDA may grant deferrals for submission of data or full or partial waivers. Unless otherwise required by regulation, PREA does not apply to any biological product candidate for an indication for which orphan designation has been granted. The testing and approval processes require substantial time and effort and there can be no assurance that the FDA will accept the BLA for filing and, even if filed, that any approval will be granted on a timely basis, if at all.

Under the Prescription Drug User Fee Act, or PDUFA, as amended, each BLA must be accompanied by a user fee. The FDA adjusts the PDUFA user fees on an annual basis. According to the FDA's fee schedule for fiscal year 2014, effective October 1, 2013, the user fee for an application requiring clinical data, such as a BLA, is $2,169,100. PDUFA also imposes an annual product fee for biologics ($104,060) and an annual establishment fee ($526,500) on facilities used to manufacture prescription biologics. Fee waivers or reductions are available in certain circumstances, including a waiver of the application fee for the first application filed by a small business. Additionally, no user fees are assessed on BLAs for product candidates designated as orphan drugs, unless the product candidate also includes a non-orphan indication.

Within 60 days following submission of the application, the FDA reviews a BLA submitted to determine if it is substantially complete before the agency accepts it for filing. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission and may request additional information. In this event, the BLA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review of the BLA. The FDA reviews the BLA to determine, among other things, whether the proposed product candidate is safe and potent, or effective, for its intended use, and has an acceptable purity profile, and whether the product candidate is being manufactured in accordance with GMP regulations to assure and preserve the product candidate's identity, safety, strength, quality, potency and purity. The FDA may refer applications for novel biological products or biological products that present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions. During the biological product approval process, the FDA also will determine whether a Risk Evaluation and Mitigation Strategy, or REMS, is necessary to assure the safe use of the biological product candidate. A REMS may be imposed to ensure safe use of the drug, and could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. If the FDA concludes a REMS is needed, the sponsor of the BLA must submit a proposed REMS; the FDA will not approve the BLA without a REMS, if required.

Before approving a BLA, the FDA will inspect the facilities at which the product candidate is manufactured. The FDA will not approve the product candidate unless it determines that the manufacturing processes and facilities are in compliance with GMP requirements and adequate to assure consistent production of the product candidate within required specifications. Additionally, before approving a BLA, the FDA may inspect one or more clinical sites to assure that the clinical trials were conducted in compliance with IND trial requirements and GCP requirements. To assure GMP and GCP compliance, an applicant must incur significant expenditure of time, money and effort in the areas of training, record keeping, production, and quality control.

Notwithstanding the submission of relevant data and information, the FDA may ultimately decide that the BLA does not satisfy its regulatory criteria for approval and deny approval. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than we interpret the same data. If the agency decides not to approve the BLA in its present form, the FDA will issue a complete response letter that usually describes all of the specific deficiencies in the BLA identified by the FDA. The deficiencies identified may be minor, for example, requiring labeling changes, or major, for example, requiring additional clinical trials. Additionally, the complete response letter may include recommended actions that the applicant might take to place the application in a condition for approval. If a complete response letter is issued, the applicant may either resubmit the BLA, addressing all of the deficiencies identified in the letter, or withdraw the application.

If a product candidate receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product candidate. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling. The FDA may impose restrictions and conditions on product distribution, prescribing, or dispensing in the form of a REMS, or otherwise limit the scope of any approval. In addition, the FDA may require post marketing clinical trials, sometimes referred to as Phase 4 clinical trials, designed to further assess a biological product's safety and effectiveness, and testing and surveillance programs to monitor the safety of approved products that have been commercialized.

One of the performance goals agreed to by the FDA under the PDUFA is to review 90% of standard BLAs in 10 months and 90% of priority BLAs in six months, whereupon a review decision is to be made. The FDA does not always meet its PDUFA goal dates for standard and priority BLAs and its review goals are subject to change from time to time. The review process and the PDUFA goal date may be extended by three months if the FDA requests or the BLA sponsor otherwise provides additional information or clarification regarding information already provided in the submission within the last three months before the PDUFA goal date.

Orphan drug designation

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biological product candidate intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making a drug or biological product available in the United States for this type of disease or condition will be recovered from sales of the product candidate. Orphan product designation must be requested before submitting an NDA or BLA. After the FDA grants orphan product designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan product designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product candidate that has orphan designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications to market the same drug or biological product for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity. Competitors, however, may receive approval of different products for the indication for which the orphan product has exclusivity or obtain approval for the same product but for a different indication for which the orphan product has exclusivity. Orphan product exclusivity also could block the approval of one of our products for seven years if a competitor obtains approval of the same biological product as defined by the FDA or if our product candidate is determined to be contained within the competitor's product for the same indication or disease. If a drug or biological product designated as an orphan product receives marketing approval for an indication broader than what is designated, it may not be entitled to orphan product exclusivity. Orphan drug status in the European Union has similar, but not identical, benefits.

Expedited development and review programs

The FDA has a Fast Track program that is intended to expedite or facilitate the process for reviewing new drugs and biological products that meet certain criteria. Specifically, new drugs and biological products are eligible for Fast Track designation if they are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast Track designation applies to the combination of the product candidate and the specific indication for which it is being studied. The sponsor of a new drug or biologic may request the FDA to designate the drug or biologic as a Fast Track product candidate at any time during the clinical development of the product candidate. Unique to a Fast Track product candidate, the FDA may consider for review sections of the marketing application on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the

sections of the application, the FDA agrees to accept sections of the application and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the application.

Any product candidate submitted to the FDA for marketing, including under a Fast Track program, may be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated approval. Any product candidate is eligible for priority review if it has the potential to provide safe and effective therapy where no satisfactory alternative therapy exists or a significant improvement in the treatment, diagnosis or prevention of a disease compared to marketed products. The FDA will attempt to direct additional resources to the evaluation of an application for a new drug or biological product candidate designated for priority review in an effort to facilitate the review, and aims to review such applications within six months as opposed to ten months for standard review. Additionally, a product candidate may be eligible for accelerated approval. Drug or biological products studied for their safety and effectiveness in treating serious or life-threatening illnesses and that provide meaningful therapeutic benefit over existing treatments may receive accelerated approval, which means that they may be approved on the basis of adequate and well-controlled clinical trials establishing that the product candidate has an effect on a surrogate endpoint that is reasonably likely to predict a clinical benefit, or on the basis of an effect on a clinical endpoint other than survival or irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of approval, the FDA may require that a sponsor of a drug or biological product candidate receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product.

Lastly, under the provisions of the new Food and Drug Administration Safety and Innovation Act, or FDASIA, enacted in 2012, a sponsor can request designation of a product candidate as a "breakthrough therapy." A breakthrough therapy is defined as a drug that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. Drugs designated as breakthrough therapies are also eligible for accelerated approval and receive the same benefits as drugs with Fast Track designation. The FDA must take certain actions, such as holding timely meetings and providing advice, intended to expedite the development and review of an application for approval of a breakthrough therapy.

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

Post-approval requirements

Maintaining compliance with applicable federal, state, and local statutes and regulations requires the expenditure of substantial time and financial resources. Rigorous and extensive FDA regulation of biological products continues after approval, particularly with respect to GMP requirements. We will rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of any products that we may commercialize. Manufacturers of our products are required to comply with applicable requirements in the GMP regulations, including quality control and quality assurance and maintenance of records and documentation. Other post-approval requirements applicable to biological products include reporting of GMP deviations that may affect the identity, potency, purity and overall safety of a distributed product, record-keeping requirements, reporting of adverse effects, reporting updated safety and efficacy information, and complying with electronic record and signature requirements. After a BLA is approved, the product may also be subject to official lot release. In this case, as part of the manufacturing process, the manufacturer is required to perform certain tests on each lot of the product before it is released for distribution. If the product is subject to official release by the FDA, the manufacturer submits samples of each lot of product to the FDA together with a release protocol showing a summary of the history of manufacture of the lot and the results of all of the manufacturer's tests

performed on the lot. The FDA also may perform certain confirmatory tests on lots of some products, such as viral vaccines, before releasing the lots for distribution by the manufacturer. In addition, the FDA conducts laboratory research related to the regulatory standards on the safety, purity, potency, and effectiveness of biological products.

We also must comply with the FDA's advertising and promotion requirements, such as those related to direct-to-consumer advertising, the prohibition on promoting products for uses or in patient populations that are not described in the product's approved labeling (known as "off-label use"), industry-sponsored scientific and educational activities, and promotional activities involving the internet. Discovery of previously unknown problems or the failure to comply with the applicable regulatory requirements may result in restrictions on the marketing of a product or withdrawal of the product from the market as well as possible civil or criminal sanctions. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval, may subject an applicant or manufacturer to administrative or judicial civil or criminal sanctions and adverse publicity. FDA sanctions could include refusal to approve pending applications, withdrawal of an approval, clinical hold, warning or untitled letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, mandated corrective advertising or communications with doctors, debarment, restitution, disgorgement of profits, or civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us.

Biological product manufacturers and other entities involved in the manufacture and distribution of approved biological products are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with GMPs and other laws. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain GMP compliance. Discovery of problems with a product after approval may result in restrictions on a product, manufacturer, or holder of an approved BLA, including withdrawal of the product from the market. In addition, changes to the manufacturing process or facility generally require prior FDA approval before being implemented and other types of changes to the approved product, such as adding new indications and additional labeling claims, are also subject to further FDA review and approval.

United States patent term restoration and marketing exclusivity

Depending upon the timing, duration and specifics of the FDA approval of the use of our product candidates, some of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, commonly referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. However, patent term restoration cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent term restoration period is generally one-half the time between the effective date of an IND and the submission date of a BLA plus the time between the submission date of a BLA and the approval of that application. Only one patent applicable to an approved biological product is eligible for the extension and the application for the extension must be submitted prior to the expiration of the patent. The United States Patent and Trademark Office, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration. In the future, we may apply for restoration of patent term for one or more of our currently owned or licensed patents to add patent life beyond its current expiration date, depending on the expected length of the clinical trials and other factors involved in the filing of the relevant BLA.

A biological product can obtain pediatric market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric study in accordance with an FDA-issued "Written Request" for such a study.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or Affordable Care Act, signed into law on March 23, 2010, includes a subtitle called the Biologics Price Competition and Innovation Act of 2009 which created an abbreviated approval pathway for biological products shown to be similar to, or interchangeable with, an FDA-licensed reference biological product. This amendment to the PHS Act attempts to minimize duplicative testing. Biosimilarity, which requires that there be no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency, can be shown through analytical studies, animal studies, and a clinical trial or trials. Interchangeability requires that a product is biosimilar to the reference product and the product must demonstrate that it can be expected to produce the same clinical results as the reference product and, for products administered multiple times, the biologic and the reference biologic may be switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic. However, complexities associated with the larger, and often more complex, structure of biological products, as well as the process by which such products are manufactured, pose significant hurdles to implementation that are still being worked out by the FDA.

A reference biologic is granted twelve years of exclusivity from the time of first licensure of the reference product. On April 10, 2013, President Obama released his proposed budget for fiscal year 2014 and proposed to cut this twelve-year period of exclusivity down to seven years. He also proposed to prohibit additional periods of exclusivity for brand biologics due to minor changes in product formulations, a practice often referred to as "evergreening." The first biologic product submitted under the abbreviated approval pathway that is determined to be interchangeable with the reference product has exclusivity against other biologics submitting under the abbreviated approval pathway for the lesser of (i) one year after the first commercial marketing, (ii) 18 months after approval if there is no legal challenge, (iii) 18 months after the resolution in the applicant's favor of a lawsuit challenging the biologics' patents if an application has been submitted, or (iv) 42 months after the application has been approved if a lawsuit is ongoing within the 42-month period.

Pharmaceutical Coverage, Pricing and Reimbursement

Sales of our products, when and if approved for marketing, will depend, in part, on the extent to which our products will be covered by third-party payors, such as federal, state, and foreign government health care programs, commercial insurance and managed healthcare organizations. These third-party payors are increasingly reducing reimbursements for medical products, drugs and services. In addition, the U.S. government, state legislatures and foreign governments have continued implementing cost containment programs, including price controls, restrictions on coverage and reimbursement and requirements for substitution of generic products. Adoption of price controls and cost containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit our net revenue and results. Decreases in third-party reimbursement for our product candidates or a decision by a third-party payor not to cover our product candidates could reduce physician usage of our products once approved and have a material adverse effect on our sales, results of operations and financial condition.

Other Healthcare Laws

Although we currently do not have any products on the market, we may be subject to additional healthcare regulation and enforcement by the federal government and by authorities in the states and foreign jurisdictions in which we conduct our business. Such laws include, without limitation, state and federal anti-kickback, fraud and abuse, false claims, privacy and security and physician sunshine laws and regulations, many of which may become more applicable to us if our product candidates are approved and we begin commercialization. If our operations are found to be in violation of any of such laws or any other governmental regulations that apply to us, we may be subject to penalties, including, without limitation, civil and criminal penalties, damages, fines, the curtailment or restructuring of our operations, exclusion from participation in federal and state healthcare programs and imprisonment, any of which could adversely affect our ability to operate our business and our financial results.

Employees

As of June 30, 2014, we had 18 full-time employees, 14 of whom have Ph.D., M.D. or other post-graduate degrees. Of these full-time employees, ten are engaged in research and development activities and five are engaged in finance, legal, human resources, facilities and general management.

All of our personnel are co-employees of AGTC and a professional human resource service organization, TriNet HR Corporation, or TriNet. Under our agreement with TriNet, TriNet is a co-employer of our personnel, and is responsible for administering all payroll functions, including tax withholding, and providing health insurance and other benefits for these individuals. We reimburse TriNet for these costs and pay TriNet an administrative fee for its services. We are responsible for, and control, all aspects of the hiring, retention, compensation, management and supervision of our personnel. We consider the terms of our contract with TriNet to be reasonable and customary and believe this arrangement provides substantial benefit to us, in the form of lower costs for employee benefits and a reduced administrative burden on us.

We have no collective bargaining agreements with our employees and we have not experienced any work stoppages. We consider our relations with our employees to be good.

Corporate information

We were incorporated in Florida in January 1999 and reincorporated in Delaware in October 2003. On April 1, 2014, we completed our initial public offering of our common stock, which is traded on The NASDAQ Global Market under the symbol "AGTC." Our principal executive offices are located at 11801 Research Drive, Suite D, Alachua, Florida 32615, and our telephone number is (386) 462-2204. Our corporate website address is www.agtc.com. Information contained on or accessible through our website is not a part of this annual report.

We use "AGTC" and the double helix logo as trademarks in the United States and other countries. We have begun the registration process for these trademarks in the United States.

This annual report contains references to our trademarks and to trademarks belonging to other entities. Solely for convenience, trademarks and trade names referred to in this annual report, including logos, artwork, and other visual displays, may appear without the or ™ symbols, but such references are not intended to indicate that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any such companies.

Implications of being an emerging growth company

As a company with less than $1 billion in revenue during our last fiscal year, we qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- reduced disclosure about our executive compensation arrangements;
- no non-binding advisory votes on executive compensation or golden parachute arrangements; and
- exemption from the auditor attestation requirement in the assessment of our internal controls over financial reporting.

We may take advantage of these exemptions for up to five years from the date of our initial public offering of common stock or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company if we have more than $1 billion in annual revenue, we have more than $700 million in market value of our stock held by non-affiliates or we issue more than $1 billion of non-convertible debt over a three-year period. We may choose to take advantage of some, but not all, of the available exemptions.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Item 1A. Risk Factors

You should carefully consider the risks and uncertainties described below, together with the information included elsewhere in this Annual Report on Form 10-K and other documents we file with the SEC. The risks and uncertainties described below are those that we have identified as material, but are not the only risks and uncertainties facing us. Our business is also subject to general risks and uncertainties that affect many other companies, such as overall U.S. and non-U.S. economic and industry conditions including a global economic slowdown, geopolitical events, changes in laws or accounting rules, fluctuations in interest and exchange rates, terrorism, international conflicts, major health concerns, natural disasters or other disruptions of expected economic and business conditions. Additional risks and uncertainties not currently known to us or that we currently believe are immaterial also may impair our business operations and liquidity.

Risks related to our financial condition and capital requirements

We have incurred significant losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future.

We are a clinical-stage biotechnology company, and we have not yet generated revenues from product sales. We have incurred losses from operations in each year since our inception in 1999, and net losses of $15.9 million, $5.0 million and $1.9 million for the years ended June 30, 2014, 2013 and 2012, respectively. As of June 30, 2014, we had an accumulated deficit of $64.3 million. Our prior losses, combined with expected future losses, have had and may continue to have an adverse effect on our stockholders' equity and working capital.

We have devoted most of our financial resources to research and development, including our clinical and preclinical development activities. To date, we have financed our operations primarily through the sale of equity securities and, to a lesser extent, through research grants from third parties or milestone payments from a collaborator. The amount of our future net losses will depend, in part, on the rate of our future expenditures and our ability to obtain funding through equity or debt financings, strategic collaborations or additional grants. We have not begun clinical trials for our lead product candidates and it will be several years, if ever, before we have a product candidate ready for commercialization. Even if we obtain regulatory approval to market a product candidate, our future revenues will depend upon the size of any markets in which our product candidates have received approval, and our ability to achieve sufficient market acceptance, reimbursement from third-party payors and adequate market share for our product candidates in those markets.

We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. We anticipate that our expenses will increase substantially if and as we:

- continue our research and preclinical and clinical development of our product candidates;
- expand the scope of our current clinical trials for our product candidates;
- initiate additional preclinical studies, clinical trials or other studies for our product candidates;

- further develop our gene therapy platform, including the process for design, delivery and manufacturing of our vectors for our product candidates;
- change or add additional manufacturers or suppliers;
- seek regulatory and marketing approvals for our product candidates that successfully complete clinical trials;
- establish a sales, marketing and distribution infrastructure to commercialize any products for which we may obtain marketing approval;
- seek to identify and validate additional product candidates;
- acquire or in-license other product candidates and technologies;
- make milestone or other payments under any in-license agreements;
- maintain, protect and expand our intellectual property portfolio;
- attract and retain skilled personnel;
- create additional infrastructure to support our operations as a public company and our product development and planned future commercialization efforts; and
- experience any delays or encounter issues with any of the above.

The net losses we incur may fluctuate significantly from quarter to quarter and year to year, such that a period-to-period comparison of our results of operations may not be a good indication of our future performance. In any particular quarter or quarters, our operating results could be below the expectations of securities analysts or investors, which could cause our stock price to decline.

Our ability to generate revenue from product sales is highly uncertain and we may never achieve or sustain profitability, which could depress the market price of our common stock, and could cause you to lose part or all of your investment.

All of our revenue generated to date has come from research grants from third parties or license fees or milestone payments from a collaborator. Our ability to generate substantial revenue and achieve profitability depends on our ability, alone or with strategic collaboration partners, to successfully complete the development of, and obtain the regulatory approvals necessary to commercialize, our product candidates. We do not anticipate generating revenues from product sales for at least the next several years, if ever. If any of our product candidates fail in clinical trials or do not gain regulatory approval, or if any of our product candidates, if approved, fail to achieve market acceptance, we may never become profitable. Even if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods. Our ability to generate future revenues from product sales depends heavily on our success in:

- completing research and preclinical and clinical development of our product candidates;
- seeking and obtaining regulatory and marketing approvals for product candidates for which we complete clinical trials;
- establishing and maintaining supply and manufacturing relationships with third parties that can provide adequate (in amount and quality) products and services to support clinical development and the market demand for our product candidates, if approved;
- launching and commercializing product candidates for which we obtain regulatory and marketing approval, either by collaborating with a partner or, if launched independently, by establishing a sales, marketing and distribution infrastructure;
- obtaining and maintaining adequate coverage and reimbursement from third-party payors for our product candidates;

- obtaining market acceptance of our product candidates and gene therapy as a viable treatment option;
- addressing any competing technological and market developments;
- implementing additional internal systems and infrastructure, as needed;
- identifying and validating new gene therapy product candidates;
- negotiating favorable terms in any collaboration, licensing or other arrangements into which we may enter;
- maintaining, protecting and expanding our portfolio of intellectual property rights, including patents, trade secrets and know-how; and
- attracting, hiring and retaining qualified personnel.

Even if one or more of the product candidates that we develop is approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate, particularly to the extent that we seek to commercialize any product for an indication, such as wet AMD, that has a patient population significantly larger than those addressed by our current lead product candidates. Our expenses could increase beyond expectations if we are required by the FDA, the EMA or other regulatory agencies, domestic or foreign, to perform clinical trials and other studies in addition to those that we currently anticipate. Even if we are able to generate revenues from the sale of any approved products, we may not become profitable and may need to obtain additional funding to continue operations. Our failure to become and remain profitable would depress the market price of our common stock and could impair our ability to raise capital, expand our business, diversify our product offerings or continue our operations.

In order to obtain regulatory approval for and commercialize our product candidates, we will need to raise additional funding in the future, which may not be available on acceptable terms, or at all. Failure to obtain necessary capital when needed may force us to delay, limit or terminate our product development efforts or other operations.

All of our lead programs in orphan ophthalmology are currently in preclinical development. Developing gene therapy products is expensive, and we expect our research and development expenses to increase substantially as we advance our current product candidates in clinical trials and as we undertake preclinical studies of new product candidates.

Our operations have consumed substantial amounts of cash since inception. As of June 30, 2014, our cash and cash equivalents and short-term investments were $73.1 million. Our research and development expenses were $8.5 million, $3.1 million and $2.4 million for the fiscal years ended June 30, 2014, 2013 and 2012, respectively. We believe that our existing cash and cash equivalents will be sufficient to enable us to complete planned preclinical studies and clinical trials for our lead product candidates for at least the next 24 months. In order to complete the process of obtaining regulatory approval for our lead product candidates and to build the sales, marketing and distribution infrastructure that we believe will be necessary to commercialize our lead product candidates, if approved, we will require substantial additional funding. Also, our current operating plan may change as a result of many factors currently unknown to us, and we may need to seek additional funds sooner than planned, through public or private equity or debt financings, government or other third-party funding, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements, or a combination of these approaches.

Any such fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates. In addition, financing may not be available to us in the future in sufficient amounts or on terms acceptable to us, if at all. Moreover, the terms of any financing may adversely affect the holdings or the rights of our stockholders and the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our

shares to decline. The sale of additional equity or convertible securities would dilute all of our stockholders. The incurrence of indebtedness would result in increased fixed payment obligations and a portion of our operating cash flows, if any, being dedicated to the payment of principal and interest on such indebtedness, and we may be required to agree to certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. We could also be required to seek funds through arrangements with collaborative partners or otherwise at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available, and we may be required to relinquish or license on unfavorable terms rights to some of our technologies or product candidates or otherwise agree to terms unfavorable to us, any of which may have a material adverse effect on our business, financial condition, results of operations and prospects and cause the price of our common stock to decline.

If we are unable to obtain needed funding on a timely basis, we may be required to significantly curtail, delay or discontinue one or more of our research or development programs or the commercialization of any product candidates or be unable to expand our operations or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, financial condition, results of operations and prospects and cause the price of our common stock to decline.

Our cash balances and investment portfolio are subject to various risks, any of which could adversely impact our financial position.

We have cash and cash equivalents and short-term investments in the aggregate amount of $73.1 million. These investments are subject to general credit, liquidity, market, political, sovereign and interest rate risks, which may be exacerbated by unusual events that affect global financial markets. A material part of our investment portfolio consists of money market accounts and certificates of deposits. If global credit and equity markets experience prolonged periods of decline, our investment portfolio may be adversely impacted and we could determine that our investments may experience an other-than-temporary decline in fair value, requiring impairment charges that could adversely affect our financial results. A failure of any of the financial institutions in which deposits exceed FDIC limits could also have an adverse impact on our financial position.

Risks related to the discovery and development of our product candidates

All of our product candidates are in preclinical or clinical development. Clinical drug development is expensive, time consuming and uncertain, and we may ultimately not be able to obtain regulatory approvals for the commercialization of some or all of our product candidates.

The research, testing, manufacturing, labeling, approval, selling, marketing and distribution of drug products are subject to extensive regulation by the FDA and other regulatory authorities, which regulations differ from country to country. Our product candidates are in various stages of development and are subject to the risks of failure typical of drug development. The development and approval process is expensive and can take many years to complete, and its outcome is inherently uncertain. We have not submitted an application for or received marketing approval for any of our product candidates. We have limited experience in conducting and managing the later stage clinical trials necessary to obtain regulatory approvals, including approval by the FDA. To receive approval, we must, among other things, demonstrate with substantial evidence from clinical trials that the product candidate is both safe and effective for each indication for which approval is sought, and failure can occur in any stage of development. Satisfaction of the approval requirements typically takes several years and the time needed to satisfy them may vary substantially, based on the type, complexity and novelty of the pharmaceutical product. We cannot predict if or when we might receive regulatory approvals for any of our product candidates currently under development.

The FDA and foreign regulatory authorities also have substantial discretion in the drug approval process. The number and types of preclinical studies and clinical trials that will be required for regulatory approval varies

depending on the product candidate, the disease or condition that the product candidate is designed to address, and the regulations applicable to any particular product candidate. Approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions, and there may be varying interpretations of data obtained from preclinical studies or clinical trials, either of which may cause delays or limitations in the approval or the decision not to approve an application. Regulatory agencies can delay, limit or deny approval of a product candidate for many reasons, including:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that a product candidate is safe and effective for its proposed indication;
- the results of clinical trials may not meet the level of statistical or clinical significance required by the FDA or comparable foreign regulatory authorities for approval;
- the patients recruited for a particular clinical program may not be sufficiently broad or representative to assure safety in the full population for which we seek approval;
- the results may not confirm the positive results from earlier preclinical studies or clinical trials;
- we may be unable to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- the data collected from clinical trials of our product candidates may not be sufficient to the satisfaction of FDA or comparable foreign regulatory authorities to support the submission of a biologics license application, or BLA, or other comparable submission in foreign jurisdictions or to obtain regulatory approval in the United States or elsewhere;
- regulatory agencies might not approve or might require changes to our manufacturing processes or facilities; or
- regulatory agencies may change their approval policies or adopt new regulations in a manner rendering our clinical data insufficient for approval.

Any delay in obtaining or failure to obtain required approvals could materially adversely affect our ability to generate revenue from the particular product candidate, which likely would result in significant harm to our financial position and adversely impact our stock price. Furthermore, any regulatory approval to market a product may be subject to limitations on the indicated uses for which we may market the product. These limitations may limit the size of the market for the product.

We are not permitted to market our product candidates in the United States or in other countries until we receive approval of a BLA from the FDA or marketing approval from applicable regulatory authorities outside the United States. Obtaining approval of a BLA can be a lengthy, expensive and uncertain process. If we fail to obtain FDA approval to market our product candidates, we will be unable to sell our product candidates in the United States, which will significantly impair our ability to generate any revenues. In addition, failure to comply with FDA and non-U.S. regulatory requirements may, either before or after product approval, if any, subject our company to administrative or judicially imposed sanctions, including:

- restrictions on our ability to conduct clinical trials, including full or partial clinical holds on ongoing or planned trials;
- restrictions on the products, manufacturers or manufacturing process;
- warning letters;

- civil and criminal penalties;
- injunctions;
- suspension or withdrawal of regulatory approvals;
- product seizures, detentions or import bans;
- voluntary or mandatory product recalls and publicity requirements;
- total or partial suspension of production;
- imposition of restrictions on operations, including costly new manufacturing requirements; and
- refusal to approve pending BLAs or supplements to approved BLAs.

Even if we do receive regulatory approval to market a product candidate, any such approval may be subject to limitations on the indicated uses for which we may market the product. It is possible that none of our existing product candidates or any product candidates we may seek to develop in the future will ever obtain the appropriate regulatory approvals necessary for us or our collaborators to commence product sales. Any delay in obtaining, or an inability to obtain, applicable regulatory approvals would prevent us from commercializing our product candidates, generating revenues and achieving and sustaining profitability.

Our gene therapy product candidates are based on a novel technology, which makes it difficult to predict the time and cost of product candidate development and subsequently obtaining regulatory approval. At the moment, no gene therapy products have been approved in the United States and only one such product has been approved in Europe.

We have concentrated our product research and development efforts on our gene therapy platform, and our future success depends on the successful development of this approach. There can be no assurance that any development problems we experience in the future related to our gene therapy platform will not cause significant delays or unanticipated costs, or that such development problems can be solved. We may also experience unanticipated problems or delays in expanding our manufacturing capacity or transferring our manufacturing process to commercial partners, which may prevent us from completing our clinical trials or commercializing our products on a timely or profitable basis, if at all.

In addition, the clinical trial requirements of the FDA, the EMA and other regulatory agencies and the criteria these regulators use to determine the safety and efficacy of a product candidate vary substantially according to the type, complexity, novelty and intended use and market of such product candidates. The regulatory approval process for novel product candidates such as ours can be more expensive and take longer than for other, better known or extensively studied pharmaceutical or other product candidates. At the moment, only one gene therapy product, uniQure B.V.'s Glybera, which received marketing authorization from the EMA in 2012, has been approved in Europe but has not yet been launched for commercial sale, which makes it difficult to determine how long it will take or how much it will cost to obtain regulatory approvals for our product candidates in either the United States or Europe. Approvals by the EMA may not be indicative of what the FDA may require for approval.

Regulatory requirements governing gene and cell therapy products have changed frequently and may continue to change in the future. For example, the FDA has established the Office of Cellular, Tissue and Gene Therapies within its Center for Biologics Evaluation and Research, or CBER, to consolidate the review of gene therapy and related products, and the Cellular, Tissue and Gene Therapies Advisory Committee to advise CBER on its review. Gene therapy clinical trials conducted at institutions that receive funding for recombinant DNA research from the United States National Institutes of Health, or the NIH, are also subject to review by the NIH Office of Biotechnology Activities' Recombinant DNA Advisory Committee, or the RAC. Although the FDA decides whether individual gene therapy protocols may proceed, the RAC review process can delay the initiation

of a clinical trial, even if the FDA has reviewed the trial design and details and approved its initiation. Conversely, the FDA can put an IND on clinical hold even if the RAC has provided a favorable review of the drug. Also, before a clinical trial can begin at an NIH-funded institution, that institution's institutional review board, or IRB, and its Institutional Biosafety Committee have to review the proposed clinical trial to assess the safety of the trial. In addition, adverse developments in clinical trials of gene therapy products conducted by others may cause the FDA or other regulatory bodies to change the requirements for approval of any of our product candidates.

These regulatory review committees and advisory groups and the new guidelines they promulgate may lengthen the regulatory review process, require us to perform additional studies, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of these product candidates or lead to significant post-approval limitations or restrictions. As we advance our product candidates, we will be required to consult with these regulatory and advisory groups, and comply with applicable guidelines. If we fail to do so, we may be required to delay or discontinue development of our product candidates. These additional processes may result in a review and approval process that is longer than we otherwise would have expected for orphan ophthalmology product candidates. Delay or failure to obtain, or unexpected costs in obtaining, the regulatory approval necessary to bring a potential product to market could decrease our ability to generate sufficient product revenue to maintain our business.

Success in animal studies or early clinical trials may not be indicative of results obtained in later trials.

Trial designs and results from animal studies or previous clinical trials are not necessarily predictive of our future clinical trial designs or results, and interim results of a clinical trial are not necessarily indicative of final results. Our product candidates may also fail to show the desired safety and efficacy in clinical development despite demonstrating positive results in animal studies or having successfully advanced through initial clinical trials. For example, our animal studies of our AAT product candidate resulted in evidence of significant production of AAT levels, but early clinical trials of our product candidate showed significantly lower levels of AAT production in treated patients. There can be no assurance that the success we achieved in the animal studies for our lead product candidates will result in success in our clinical trials of those product candidates.

There is a high failure rate for drugs and biological products proceeding through clinical trials. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in later stage clinical trials even after achieving promising results in earlier stage clinical trials. Data obtained from preclinical and clinical activities are subject to varying interpretations, which may delay, limit or prevent regulatory approval. In addition, we may experience regulatory delays or rejections as a result of many factors, including due to changes in regulatory policy during the period of our product candidate development.

We may find it difficult to enroll patients in our clinical trials, which could delay or prevent clinical trials of our product candidates.

Identifying and qualifying patients to participate in clinical trials of our product candidates is critical to our success. The timing of our clinical trials depends on the speed at which we can recruit patients to participate in testing our product candidates as well as completion of required follow-up periods. If patients are unwilling to participate in our gene therapy studies because of negative publicity from adverse events in the biotechnology or gene therapy industries or for other reasons, including competitive clinical trials for similar patient populations, the timeline for recruiting patients, conducting studies and obtaining regulatory approval of our product candidates may be delayed. For example, trials using early versions of lentiviral vectors, which integrate with, and thereby alter, the host cell's DNA, have led to several well-publicized adverse events, including reported cases of leukemia. If there are delays in accumulating the required number of clinical events in trials for our product candidates where clinical events are a primary endpoint, there may be delays in completing the trial.

These delays could result in increased costs, delays in advancing our product candidates, delays in testing the effectiveness of our technology or termination of the clinical trials altogether.

We may not be able to identify, recruit and enroll a sufficient number of patients, or those with required or desired characteristics to achieve diversity in a trial, to complete our clinical trials in a timely manner. In particular, each of the conditions for which we plan to evaluate our product candidates are rare genetic disorders with limited patient pools from which to draw for clinical trials. The eligibility criteria of our clinical trials will further limit the pool of available trial participants.

Patient enrollment is affected by factors including:

- severity of the disease under investigation;
- design of the clinical trial protocol;
- size and nature of the patient population;
- eligibility criteria for the trial in question;
- perceived risks and benefits of the product candidate under trial;
- proximity and availability of clinical trial sites for prospective patients;
- availability of competing therapies and clinical trials;
- clinicians' and patients' perceptions as to the potential advantages of the drug being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating;
- efforts to facilitate timely enrollment in clinical trials;
- patient referral practices of physicians; and
- our ability to monitor patients adequately during and after treatment.

If we have difficulty enrolling a sufficient number of patients to conduct our clinical trials as planned, we may be forced to delay, limit or terminate ongoing or planned clinical trials, any of which would have an adverse effect on our business. We could encounter delays if physicians encounter unresolved ethical issues associated with enrolling patients in clinical trials of our product candidates in lieu of prescribing existing treatments that have established safety and efficacy profiles.

We plan to seek initial marketing approval for our product candidates in the United States and the European Economic Area, or EEA. We may not be able to initiate or continue clinical trials if we cannot enroll a sufficient number of eligible patients to participate in the clinical trials required by the FDA, the EMA or other foreign regulatory authorities. Our ability to successfully initiate, enroll and complete a clinical trial in any foreign country is subject to numerous risks unique to conducting business in foreign countries, including:

- difficulty in establishing or managing relationships with contract research organizations, or CROs, and physicians;
- different standards for conducting clinical trials;
- our inability to locate qualified local consultants, physicians and partners; and
- the potential burden of complying with a variety of foreign laws, medical standards and regulatory requirements, including the regulation of pharmaceutical and biotechnology products and treatments.

We may encounter substantial delays in our clinical trials or we may fail to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities.

Before obtaining marketing approval from regulatory authorities for the sale of our product candidates, we must conduct extensive clinical trials to demonstrate the safety and efficacy of such product candidates in humans. Clinical testing is expensive, time-consuming and uncertain as to outcome. We cannot guarantee that any clinical trials will be conducted as planned or completed on schedule, if at all. A failure of one or more clinical trials can occur at any stage of testing. Events that may prevent successful or timely completion of clinical development include:

- delays in raising, or inability to raise, sufficient capital to fund the planned clinical trials;
- inability to generate sufficient preclinical, toxicology, or other data to support the initiation of human clinical trials;
- delays in reaching a consensus with regulatory agencies on trial design;
- identifying, recruiting and training suitable clinical investigators;
- delays in reaching agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- delays in obtaining required IRB approval at each clinical trial site;
- delays in recruiting suitable patients to participate in our clinical trials;
- delays due to changing standard of care for the diseases we are targeting;
- adding new clinical trial sites;
- imposition of a clinical hold by regulatory agencies, after review of an IND application or equivalent application or an inspection of our clinical trial operations or trial sites;
- failure by our CROs, other third parties or us to adhere to clinical trial requirements;
- loss of product due to shipping delays or delays in customs in connection with delivery to foreign countries for use in clinical trials;
- failure to perform in accordance with the FDA's good clinical practices, or GCP requirements or applicable regulatory guidelines in other countries;
- inability to manufacture, test, release, import or export for use sufficient quantities of our product candidates for use in clinical trials;
- failure to manufacture our product candidate in accordance with the FDA's good manufacturing practice, or GMP, requirements or applicable regulatory guidelines in other countries;
- delays in the testing, validation and delivery of our product candidates to the clinical trial sites;
- delays in having patients complete participation in a trial or return for post-treatment follow-up;
- clinical trial sites deviating from trial protocol or clinical trial sites or patients dropping out of a trial;
- occurrence of serious adverse events associated with the product candidate that are viewed to outweigh its potential benefits;
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols;
- the costs of clinical trials of our product candidates may be greater than we anticipate; or

- clinical trials of our product candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon drug development programs.

Further, a clinical trial may be suspended or terminated by us, our collaborators, the IRBs, in the institutions in which such trials are being conducted, the Data Safety Monitoring Board, or DSMB, for such trial, or by the FDA or other regulatory authorities due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a product candidate, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. If we experience termination of, or delays in the completion of, any clinical trial of our product candidates, the commercial prospects of our product candidates will be harmed, and our ability to generate product revenues from any of these product candidates will be delayed. Furthermore, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates.

Any inability to successfully complete preclinical and clinical development could result in additional costs to us or impair our ability to generate revenues from product sales, regulatory and commercialization milestones and royalties. In addition, if we or our third-party collaborators make manufacturing or formulation changes to product candidates, we or they may need to conduct additional trial to bridge the modified product candidates to earlier versions. Clinical trial delays could also shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do, which could impair our ability to successfully commercialize our product candidates and may harm our business and results of operations.

If the results of our clinical trials are inconclusive or if there are safety concerns or adverse events associated with our product candidates, we may:

- be delayed in obtaining marketing approval for our product candidates, if at all;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings;
- be subject to changes with the way the product is administered;
- be required to perform additional clinical trials to support approval or be subject to additional post-marketing testing requirements;
- have regulatory authorities withdraw their approval of the product or impose restrictions on its distribution in the form of a modified risk evaluation and mitigation strategy;
- be subject to the addition of labeling statements, such as warnings or contraindications;
- be sued; or
- experience damage to our reputation.

Any of these events could prevent us from achieving or maintaining market acceptance of our product candidates and impair our ability to commercialize our product candidates.

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

As with many pharmaceutical and biological products, treatment with our product candidates may produce undesirable side effects or adverse reactions or events. These adverse events may occur despite our belief that our AAV vectors have an improved safety profile over prior such treatments.

Known adverse side effects that could occur with treatment with AAV vectors include an immunologic reaction to the capsid protein or gene at early timepoints after administration. In previous clinical trials involving AAV viral vectors for gene therapy, some subjects experienced serious adverse events, including the development of T-cell response due to immune response against the vector capsid proteins. If our vectors demonstrate a similar effect, or other adverse events, we may be required to halt or delay further clinical development of our product candidates. In addition, theoretical adverse side effects of AAV vectors include replication and spread of the virus to other parts of the body and insertional oncogenesis, which is the process whereby the insertion of a functional gene near a gene that is important in cell growth or division results in uncontrolled cell division, also known as cancer, which could potentially enhance the risk of malignant transformation. Potential procedure-related events, including inflammation or injury to the eye, are similar to those associated with standard ophthalmic intervention procedures. There is also the potential risk of delayed adverse events following exposure to gene therapy products due to persistent biological activity of the genetic material or other components of products used to carry the genetic material.

If any such adverse events occur, our clinical trials could be suspended or terminated and the FDA, the EMA or other foreign regulatory authorities could order us to cease further development of or deny approval of our product candidates for any or all targeted indications. The product-related side effects could affect patient recruitment or the ability of enrolled patients to complete the trial. If we elect or are required to delay, suspend or terminate any clinical trial of any of our product candidates, the commercial prospects of such product candidates will be harmed and our ability to generate product revenues from any of these product candidates will be delayed or eliminated. Any of these occurrences may harm our business, financial condition and prospects significantly.

Additionally, if any of our product candidates receive marketing approval, the FDA could require us to adopt a Risk Evaluation and Mitigation Strategy, or REMS, to ensure that the benefits outweigh its risks, which may include, among other things, a medication guide outlining the risks of gene therapies for distribution to patients and a communication plan to health care practitioners. Furthermore, if we or others later identify undesirable side effects caused by our product candidate, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw approvals of such product candidate;
- regulatory authorities may require additional warnings on the label;
- we may be required to create a medication guide outlining the risks of such side effects for distribution to patients;
- we may be required to change the way a product candidate is administered or conduct additional clinical trials;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of our product candidates and could significantly harm our business, prospects, financial condition and results of operations.

We may be unable to obtain orphan product designation or exclusivity for some of our product candidates. If our competitors are able to obtain orphan product exclusivity for their products that are the same as our product candidates, we may not be able to have competing products approved by the applicable regulatory authority for a significant period of time.

Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act of 1983, the FDA may designate a product candidate as an orphan drug if it is intended to treat a rare disease or condition, which is generally defined as having a patient population of fewer than 200,000 individuals diagnosed annually in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. In the European Union, the EMA's Committee for Orphan Medicinal Products, or COMP, grants orphan drug designation to promote the development of products that are intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition affecting not more than 5 in 10,000 persons in the European Union Community. Additionally, designation is granted for products intended for the diagnosis, prevention or treatment of a life-threatening, seriously debilitating or serious and chronic condition and when, without incentives, it is unlikely that sales of the drug in the European Union would be sufficient to justify the necessary investment in developing the drug or biological product. Our product candidates for the treatment of LCA2, XLRS, ACHM (in the form caused by mutations in the CNGB3 gene) and AAT deficiency have been granted orphan drug designations by the FDA, but at this time we have neither requested nor obtained orphan drug designation for any of our other product candidates. Even if we request orphan drug designation for our other product candidates, there can be no assurances that the FDA will grant any of our product candidates such designation. Additionally, the designation by the FDA of any of our product candidates as an orphan drug does not guarantee that the FDA will accelerate regulatory review of or ultimately approve that product candidate.

Generally, if a product candidate with an orphan drug designation subsequently receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the EMA or the FDA from approving another marketing application for the same drug and indication for that time period, except in limited circumstances. The applicable period is seven years in the United States and 10 years in Europe. The European exclusivity period can be reduced to six years if a product no longer meets the criteria for orphan drug designation or if the product is sufficiently profitable so that market exclusivity is no longer justified. Orphan drug exclusivity may be lost if the FDA or EMA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of patients with the rare disease or condition.

Even if we obtain orphan drug exclusivity for a product candidate, that exclusivity may not effectively protect the product candidate from competition because different drugs can be approved for the same condition. In the United States, even after an orphan drug is approved, the FDA can subsequently approve another drug for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care.

Even if we complete the necessary clinical trials, we cannot predict when or if we will obtain regulatory approval to commercialize a product candidate or the approval may be for a more narrow indication than we expect.

We cannot commercialize a product candidate until the appropriate regulatory authorities have reviewed and approved the product candidate. Even if our product candidates demonstrate safety and efficacy in clinical trials, the regulatory agencies may not complete their review processes in a timely manner, or we may not be able to obtain regulatory approval. Additional delays may result if an FDA Advisory Committee or other regulatory authority recommends non-approval or restrictions on approval. In addition, we may experience delays or rejections based upon additional government regulation from future legislation or administrative action, or changes in regulatory agency policy during the period of product development, clinical trials and the review

process. Regulatory agencies also may approve a product candidate for fewer or more limited indications than requested, may not approve the price we intend to charge for our product candidate, may impose significant limitations in the form of narrow indications, warnings, precautions or contra-indications with respect to conditions of use or may grant approval subject to the performance of costly post-marketing clinical trials. In addition, regulatory agencies may not approve the labeling claims that are necessary or desirable for the successful commercialization of our product candidates. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates.

Even if we obtain regulatory approval for a product candidate, our products will remain subject to regulatory scrutiny.

Even if we obtain regulatory approval in a jurisdiction for our product candidates, they will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, and submission of safety and other post-market information. Any regulatory approvals that we receive for our product candidates may also be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 clinical trials, and surveillance to monitor the safety and efficacy of the product. For example, the holder of an approved BLA is obligated to monitor and report adverse events and any failure of a product to meet the specifications in the BLA. FDA guidance advises that patients treated with some types of gene therapy undergo follow-up observations for potential adverse events for as long as 15 years. The holder of an approved BLA must also submit new or supplemental applications and obtain FDA approval for certain changes to the approved product, product labeling or manufacturing process. Advertising and promotional materials must comply with FDA rules and are subject to FDA review, in addition to other potentially applicable federal and state laws.

In addition, product manufacturers and their facilities are subject to payment of user fees and continual review and periodic inspections by the FDA and other regulatory authorities for compliance with GMP requirements and adherence to commitments made in the BLA or foreign marketing application. If we or a regulatory agency discovers previously unknown problems with a product such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured or disagrees with the promotion, marketing or labeling of that product, a regulatory agency may impose restrictions relative to that product, the manufacturing facility or us, including requiring recall or withdrawal of the product from the market or suspension of manufacturing.

If we fail to comply with applicable regulatory requirements following approval of any of our product candidates, a regulatory agency may:

- issue a warning letter asserting that we are in violation of the law;
- seek an injunction or impose civil or criminal penalties or monetary fines;
- suspend or withdraw regulatory approval;
- suspend any ongoing clinical trials;
- refuse to approve a pending BLA or comparable foreign marketing application (or any supplements thereto) submitted by us or our strategic partners;
- restrict the marketing or manufacturing of the product;
- seize or detain product or otherwise require the withdrawal of product from the market;
- refuse to permit the import or export of products; or
- refuse to allow us to enter into supply contracts, including government contracts.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. The occurrence of any event or penalty described above may inhibit our ability to commercialize our product candidates and generate revenues.

In addition, the FDA's policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability, which would adversely affect our business, prospects, financial condition and results of operations.

Even if we obtain and maintain approval for our product candidates from the FDA, we may never obtain approval for our product candidates outside of the United States, which would limit our market opportunities and adversely affect our business.

Approval of a product candidate in the United States by the FDA does not ensure approval of such product candidate by regulatory authorities in other countries or jurisdictions, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. Sales of our product candidates outside of the United States will be subject to foreign regulatory requirements governing clinical trials and marketing approval. Even if the FDA grants marketing approval for a product candidate, comparable regulatory authorities of foreign countries must also approve the manufacturing and marketing of the product candidates in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the United States, including additional preclinical studies or clinical trials. In many countries outside the United States, a product candidate must be approved for reimbursement before it can be approved for sale in that country. In some cases, the price that we intend to charge for our products, if approved, is also subject to approval. We intend to submit a marketing authorization application to the EMA for approval in the EEA, but obtaining such approval is a lengthy and expensive process and the EMA has its own procedures for approval of product candidates. Even if a product candidate is approved, the FDA or the EMA, as the case may be, may limit the indications for which the product may be marketed, require extensive warnings on the product labeling or require expensive and time-consuming clinical trials or reporting as conditions of approval. Regulatory authorities in countries outside of the United States and the EEA also have requirements for approval of product candidates with which we must comply prior to marketing in those countries. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our product candidates in certain countries.

Further, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries and regulatory approval of a product candidate in one country does not ensure approval in any other country, while a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory approval process in others. Also, regulatory approval for any of our product candidates may be withdrawn. If we fail to comply with the regulatory requirements in international markets and/or receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed and our business will be adversely affected.

Risks related to our reliance on third parties

We expect to rely on third parties to conduct aspects of our product manufacturing and protocol development, and these third parties may not perform satisfactorily.

We do not expect to independently conduct all aspects of our vector production, product manufacturing, protocol development, and monitoring and management of our ongoing and planned preclinical and clinical

programs. Although we intend expand our manufacturing capabilities and, in particular, to develop a pilot program for the in-house manufacture of materials for our clinical trials, we currently rely, and expect to continue to rely, to a significant degree, on third parties for the production of our clinical trial materials. In such cases, we expect to control only certain aspects of their activities.

Under certain circumstances, these third parties may be entitled to terminate their engagements with us. If we need to enter into alternative arrangements, it could delay our product development activities. Our reliance on these third parties for research and development activities will reduce our control over these activities but will not relieve us of our responsibility to ensure compliance with all required regulations and study and trial protocols. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our studies in accordance with regulatory requirements or our stated study and trial plans and protocols, or if there are disagreements between us and these third parties, we will not be able to complete, or may be delayed in completing, the preclinical studies and clinical trials required to support future IND submissions and approval of our product candidates. In some such cases we may need to locate an appropriate replacement third-party relationship, which may not be readily available or on acceptable terms, which would cause additional delay with respect to the approval of our product candidates and would thereby have a material adverse effect on our business, financial condition, results of operations and prospects.

In addition, reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured the product candidates ourselves, including:

- the inability to negotiate manufacturing agreements with third parties under commercially reasonable terms;
- reduced control as a result of using third-party manufacturers for all aspects of manufacturing activities;
- termination or nonrenewal of manufacturing agreements with third parties in a manner or at a time that is costly or damaging to us; and
- disruptions to the operations of our third-party manufacturers or suppliers caused by conditions unrelated to our business or operations, including the bankruptcy of the manufacturer or supplier.

Any of these events could lead to clinical trial delays or failure to obtain regulatory approval, or impact our ability to successfully commercialize future product candidates. Some of these events could be the basis for FDA action, including injunction, recall, seizure or total or partial suspension of product manufacture.

We and our contract manufacturer are subject to significant regulatory oversight with respect to manufacturing our products. The manufacturing facilities on which we rely may not continue to meet regulatory requirements and may have limited capacity.

All parties involved in the preparation of therapeutics for clinical trial or commercial sale, including our existing contract manufacturer for our product candidates, SAFC Pharma, are subject to extensive regulation. Components of a finished therapeutic product approved for commercial sale or used in late-stage clinical trials must be manufactured in accordance with GMP requirements. These regulations govern manufacturing processes and procedures (including record keeping) and the implementation and operation of quality systems to control and assure the quality of investigational products and products approved for sale. Poor control of production processes can lead to the introduction of adventitious agents or other contaminants, or to inadvertent changes in the properties or stability of our product candidates that may not be detectable in final product testing. We or our contract manufacturers must supply all necessary documentation in support of a BLA on a timely basis and must adhere to the FDA's GMP requirements enforced by the FDA through its facilities inspection program. Our facilities and quality systems and the facilities and quality systems of some or all of our third-party contractors must pass a pre-approval inspection for compliance with the applicable regulations as a condition of regulatory approval of our product candidates. In addition, the regulatory authorities may, at any time, audit or inspect a

manufacturing facility involved with the preparation of our product candidates or the associated quality systems for compliance with the regulations applicable to the activities being conducted. If these facilities do not pass a pre-approval plant inspection, FDA approval of the products will not be granted.

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

If we or any of our third-party manufacturers fail to maintain regulatory compliance, the FDA can impose regulatory sanctions including, among other things, refusal to approve a pending application for a new product candidate, or revocation of a pre-existing approval. Such an occurrence may cause our business, financial condition and results of operations to be materially harmed.

Additionally, if supply from an approved manufacturer is interrupted, there could be a significant disruption in commercial supply of our products. We do not currently have a backup manufacturer of our product candidate supply for clinical trials or commercial sale. An alternative manufacturer would need to be qualified through a BLA supplement which could result in further delay. The regulatory agencies may also require additional trials if a new manufacturer is relied upon for commercial production. Switching manufacturers may involve substantial costs and is likely to result in a delay in our desired clinical and commercial timelines.

These factors could cause the delay of clinical trials, regulatory submissions, required approvals or commercialization of our product candidates, cause us to incur higher costs and prevent us from commercializing our products successfully. Furthermore, if our suppliers fail to meet contractual requirements, and we are unable to secure one or more replacement suppliers capable of production at a substantially equivalent cost, our clinical trials may be delayed or we could lose potential revenue.

We expect to rely on third parties to conduct and supervise our clinical trials, and if these third parties perform in an unsatisfactory manner, it may harm our business.

We expect to rely on academic research institutions and other CROs along with clinical trial sites to ensure our clinical trials are conducted properly and on time. While we will have agreements governing their activities, we will have limited influence over their actual performance and will control only certain aspects of our CROs' activities. Nevertheless, we will be responsible for ensuring that each of our clinical trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards, and our reliance on the CROs does not relieve us of our regulatory responsibilities.

We and our CROs are required to comply with the FDA's and other regulatory authorities' GCP, GMP and good laboratory practice, or GLP, requirements for conducting, recording and reporting the results of our preclinical studies and clinical trials to assure that the data and reported results are credible and accurate and that the rights, integrity and confidentiality of clinical trial participants are protected. The FDA enforces these requirements through periodic inspections of study sponsors, principal investigators and clinical trial sites. If we or our CROs fail to comply with applicable GCP requirements, the clinical data generated in our future clinical trials may be deemed unreliable and the FDA may require us to perform additional clinical trials before approving any marketing applications. Upon inspection, the FDA may determine that our clinical trials did not comply with GCP requirements, which may render the data generated in those trials unreliable. In addition, our future clinical trials will require a sufficient number of test subjects to evaluate the safety and effectiveness of our product candidates. Accordingly, if our CROs fail to comply with these regulations or fail to recruit a sufficient number of patients, we may be required to repeat such clinical trials, which would delay the regulatory approval process.

Our CROs are not our employees, and, except for remedies available to us under our agreements with such CROs, we are therefore unable to directly monitor whether or not they devote sufficient time and resources to our clinical and nonclinical programs. These CROs may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other drug development activities that could harm our competitive position. If our CROs do not successfully carry out their contractual duties or obligations, fail to meet expected deadlines, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements, or for any other reasons, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize our product candidates. As a result, our financial results and the commercial prospects for our product candidates would be harmed, our costs could increase, and our ability to generate revenues could be delayed.

Switching or adding CROs involves substantial cost and requires extensive management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. Though we carefully manage our relationships with our CROs, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, prospects, financial condition and results of operations.

We also expect to rely on other third parties to store and distribute our vectors and products for any clinical trials that we may conduct. Any performance failure on the part of our distributors could delay clinical development, regulatory review or marketing approval of our product candidates or commercialization of our products, if approved, producing additional losses and depriving us of potential product revenue.

Collaborations with third parties may be important to our business. If these collaborations are not successful, our business could be adversely affected.

We entered into a collaboration with Genzyme relating to a wet AMD product candidate, which subsequently was modified to take the form of a license to Genzyme. Under our modified relationship, Genzyme became responsible for all future clinical and commercial development of the licensed wet AMD product candidate. Genzyme informed us in 2013 that it no longer intends to use our HSV-based manufacturing technology to produce the AAV vector being used for the wet AMD product. Our license agreement with Genzyme was further amended in December 2013 to reflect this fact. We do not currently expect to derive substantial revenue from our license arrangement with Genzyme, but an unsuccessful outcome in pending and future clinical trials for which Genzyme is responsible could be harmful to the public perception and prospects of our gene therapy platform. Our license relationship with Genzyme, and any future collaboration we enter into in the future, may pose a number of risks, including the following:

- collaborators have significant discretion in determining the efforts and resources that they will apply to these collaborations;
- collaborators may not perform their obligations as expected;
- collaborators may not pursue development and commercialization of any product candidates that achieve regulatory approval or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates if the collaborators believe that competitive

products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;

- product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the commercialization of our product candidates;
- a collaborator with marketing and distribution rights to one or more of our product candidates that achieve regulatory approval may not commit sufficient resources to the marketing and distribution of any such product candidate;
- disagreements with collaborators, including disagreements over proprietary rights, contract interpretation or the preferred course of development of any product candidates, might cause delays or termination of the research, development or commercialization of such product candidates, might lead to additional responsibilities for us with respect to such product candidates, or might result in litigation or arbitration, any of which would be time-consuming and expensive;
- collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability; and
- collaborations may be terminated for the convenience of the collaborator and, if terminated, we could be required to raise additional capital to pursue further development or commercialization of the applicable product candidates.

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

Our license to Genzyme contains a restriction on our engaging in activities that are the subject of that collaboration. However, as a result of the December 2013 amendment of our agreement with Genzyme, these restrictions no longer apply to the field of treatments for ocular neovascularization disorders, including AMD. In addition, under that collaboration agreement, Genzyme has options, which expire in 2015 and 2017, to license our manufacturing technology as it existed at the time of the license for specified genes implicated in diseases outside our current area of focus. These restrictions, and any similar restrictions contained in future collaborations, may have the effect of preventing us from undertaking development and other efforts that may appear to be attractive to us.

Additionally, subject to its contractual obligations to us, if one of our collaborators is involved in a business combination, the collaborator might deemphasize or terminate the development or commercialization of any product candidate licensed to it by us. If one of our collaborators terminates its agreement with us, we may find it more difficult to attract new collaborators and our perception in the business and financial communities could be adversely affected.

We may in the future determine to collaborate with pharmaceutical and biotechnology companies for development and potential commercialization of our product candidates. These relationships or those like them may require us to incur non-recurring and other charges, increase our near- and long-term expenditures, issue securities that dilute our existing stockholders or disrupt our management and business. In addition, we could

face significant competition in seeking appropriate collaborators and the negotiation process is time-consuming and complex. Our ability to reach a definitive collaboration agreement will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. Moreover, we may not be successful in our efforts to establish a strategic partnership or other alternative arrangements for our product candidates because our research and development pipeline may be insufficient, our product candidates may be deemed to be at too early of a stage of development for collaborative effort and third parties may not view our product candidates as having the requisite potential to demonstrate safety and efficacy. If we license product candidates, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture. We cannot be certain that, following a strategic transaction or license, we will achieve the revenues or specific net income that justifies such transaction.

If we are unable to reach agreements with suitable collaborators on a timely basis, on acceptable terms, or at all, we may have to curtail the development of a product candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to fund and undertake development or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we fail to enter into collaborations and do not have sufficient funds or expertise to undertake the necessary development and commercialization activities, we may not be able to further develop our product candidates or bring them to market or continue to develop our gene therapy platform and our business may be materially and adversely affected.

Our reliance on third parties requires us to share our trade secrets, which increases the possibility that a competitor will discover them or that our trade secrets will be misappropriated or disclosed.

Because we rely on third parties to manufacture our viral vectors and our product candidates, and because we collaborate with various organizations and academic institutions on the advancement of our gene therapy platform, we must, at times, share trade secrets with them. We seek to protect our proprietary technology in part by entering into confidentiality agreements and, if applicable, material transfer agreements, collaborative research agreements, consulting agreements or other similar agreements with our collaborators, advisors, employees and consultants prior to beginning research or disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information, such as trade secrets.

Despite the contractual provisions employed when working with third parties, the need to share trade secrets and other confidential information increases the risk that such trade secrets become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. Given that our proprietary position is based, in part, on our know-how and trade secrets, a competitor's discovery of our trade secrets or other unauthorized use or disclosure would impair our competitive position and may have a material adverse effect on our business.

In addition, these agreements typically restrict the ability of our collaborators, advisors, employees and consultants to publish data potentially relating to our trade secrets. Our academic collaborators typically have rights to publish data, provided that we are notified in advance and may delay publication for a specified time in order to secure our intellectual property rights arising from the collaboration. In other cases, publication rights are controlled exclusively by us, although in some cases we may share these rights with other parties. We also conduct joint research and development programs that may require us to share trade secrets under the terms of our research and development partnerships or similar agreements. Despite our efforts to protect our trade secrets, our competitors may discover our trade secrets, either through breach of these agreements, independent development or publication of information including our trade secrets in cases where we do not have proprietary or otherwise protected rights at the time of publication. A competitor's discovery of our trade secrets would impair our competitive position and have an adverse impact on our business.

Risks related to commercialization of our product candidates

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our product candidates, we may be unable to generate any revenues.

We currently have no sales and marketing organization and have no experience selling and marketing our product candidates. To successfully commercialize any products that may result from our development programs, we will need to develop these capabilities, either on our own or with others. The establishment and development of our own sales force or the establishment of a contract sales force to market any products we may develop will be expensive and time-consuming, particularly to the extent that we seek to commercialize any product for an indication, such as wet AMD, that has a patient population significantly larger than those addressed by our current lead product candidates, and could delay any product launch. Moreover, we cannot be certain that we will be able to successfully develop this capability. We may enter into collaborations with other entities to utilize their mature marketing and distribution capabilities, but we may be unable to enter into marketing agreements on favorable terms, if at all. If our future collaborators do not commit sufficient resources to commercialize our future products, if any, and we are unable to develop the necessary marketing capabilities on our own, we will be unable to generate sufficient product revenue to sustain our business. We will be competing with many companies that currently have extensive and well-funded marketing and sales operations to recruit, hire, train and retain marketing and sales personnel. We also face competition in our search for third parties to assist us with the sales and marketing efforts of our product candidates. Without an internal team or the support of a third party to perform marketing and sales functions, we may be unable to compete successfully against these more established companies.

We face intense competition and rapid technological change and the possibility that our competitors may develop therapies that are more advanced or effective than ours, which may adversely affect our financial condition and our ability to successfully commercialize our product candidates.

The biotechnology and pharmaceutical industries are characterized by intense and rapidly changing competition to develop new technologies and proprietary products, and any product candidates that we successfully develop and commercialize will have to compete with existing therapies and new therapies that may become available in the future. While we believe that our proprietary technology estate and scientific expertise in the gene therapy field provide us with competitive advantages, we face potential competition from many different sources, including larger and better-funded pharmaceutical, specialty pharmaceutical and biotechnology companies, as well as from academic institutions and governmental agencies and public and private research institutions that may develop potentially competitive products or technologies.

Currently there are no approved products for any of our lead orphan ophthalmology indications of XLRS, ACHM and XLRP. We believe the key competitive factors that will affect the success of our product candidates, if approved, are likely to be their efficacy, safety, convenience of administration and delivery, price, the level of generic competition and the availability of reimbursement from government and other third-party payors.

We believe there are a number of companies that are working on AAV-based gene therapy technology and that there are companies developing gene therapies in the field of orphan ophthalmology, on which we are currently focused, which have programs that are at the clinical and pre-clinical stages. Other companies could also potentially seek to enter this field.

Many of our potential competitors, alone or with their strategic partners, have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of product candidates, obtaining FDA and other regulatory approvals of treatments and the commercialization of those treatments. To the extent that we develop product candidates for indications with larger patient populations, such as wet AMD, we expect to experience particularly intense competition from larger and better funded pharmaceutical companies. Mergers and acquisitions in the biotechnology and pharmaceutical industries may

result in even more resources being concentrated among a smaller number of our competitors. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market.

The insurance coverage and reimbursement status of newly-approved products is uncertain. Failure to obtain or maintain adequate coverage and reimbursement for our products, if approved, could limit our ability to market those products and decrease our ability to generate revenue.

We expect the cost of a single administration of gene therapy products such as those we are developing to be substantial, when and if they achieve regulatory approval. We expect that coverage and reimbursement by governmental and private payors will be essential for most patients to be able to afford these treatments. Accordingly, sales of our product candidates will depend substantially, both domestically and abroad, on the extent to which the costs of our product candidates will be paid by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or reimbursed by government authorities, private health coverage insurers and other third-party payors. Coverage and reimbursement by a third-party payor may depend upon a number of factors, including the third-party payor's determination that use of a product is:

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

Obtaining coverage and reimbursement approval for a product from governmental and private payors is a time-consuming and costly process that could require us to provide to the payor supporting scientific, clinical and cost-effectiveness data for the use of our products. We may not be able to provide data sufficient to gain acceptance with respect to coverage and reimbursement. If coverage and reimbursement are not available, or is available only to limited levels, we may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us to establish or maintain pricing sufficient to realize a sufficient return on our investment.

There is significant uncertainty related to third-party coverage and reimbursement of newly approved products. In the United States, third-party payors, including private and governmental payors, such as the Medicare and Medicaid programs, play an important role in determining the extent to which new drugs and biologics will be covered and reimbursed. The Medicare and Medicaid programs increasingly are used as models for how private payors and other governmental payors develop their coverage and reimbursement policies for drugs and biologics. Currently, no gene therapy products have been approved for coverage and reimbursement by the Centers for Medicare & Medicaid Services, or CMS, the agency responsible for administering the Medicare program, and it is difficult to predict what CMS will decide with respect to coverage and reimbursement for fundamentally novel products such as ours, as there is no body of established practices and precedents for these new products. Moreover, reimbursement agencies in Europe may be more conservative than CMS. For example, a number of cancer drugs have been approved for reimbursement in the United States and have not been approved for reimbursement in certain European countries. It is difficult to predict at this time what third-party payors will decide with respect to the coverage and reimbursement for our product candidates.

Outside the United States, international operations are generally subject to extensive governmental price controls and other market regulations, and we believe the increasing emphasis on cost-containment initiatives in Europe, Canada, and other countries has and will continue to put pressure on the pricing and usage of our product candidates. In many countries, the prices of medical products are subject to varying price control mechanisms as

part of national health systems. In general, the prices of medicines under such systems are substantially lower than in the United States. Other countries allow companies to fix their own prices for medical products, but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our product candidates. Accordingly, in markets outside the United States, the reimbursement for our products may be reduced compared with the United States and may be insufficient to generate commercially reasonable revenues and profits.

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

Negative public opinion and increased regulatory scrutiny of gene therapy and genetic research may damage public perception of our product candidates or adversely affect our ability to conduct our business or obtain regulatory approvals for our product candidates.

Gene therapy remains a novel technology, with no gene therapy product approved to date in the United States and only one gene therapy product approved to date in Europe. Public perception may be influenced by claims that gene therapy is unsafe, and gene therapy may not gain the acceptance of the public or the medical community. In particular, our success will depend upon physicians specializing in the treatment of those diseases that our product candidates target prescribing treatments that involve the use of our product candidates in lieu of, or in addition to, existing treatments they are already familiar with and for which greater clinical data may be available. More restrictive government regulations or negative public opinion would have a negative effect on our business or financial condition and may delay or impair the development and commercialization of our product candidates or demand for any products we may develop. For example, trials using early versions of lentiviral vectors, which integrate with, and thereby alter, the host cell's DNA, have led to several well-publicized adverse events, including reported cases of leukemia. Although none of our current product candidates utilize lentiviral vectors, our product candidates use a viral delivery system. Adverse events in our clinical trials, even if not ultimately attributable to our product candidates, and the resulting publicity could result in increased governmental regulation, unfavorable public perception, potential regulatory delays in the testing or approval of our product candidates, stricter labeling requirements for those product candidates that are approved and a decrease in demand for any such product candidates.

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

In the United States, there have been and continue to be a number of legislative initiatives to contain healthcare costs. For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or PPACA, was passed, which substantially changes the way health care is financed by both governmental and private insurers, and significantly impacts the U.S. pharmaceutical industry. The PPACA, among other things, subjects biologic products to potential competition by lower-cost biosimilars, addresses a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected, increases the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extends the rebate program to individuals enrolled in Medicaid managed care organizations, establishes annual fees and taxes on manufacturers of certain branded prescription drugs, and subjects additional drugs to lower pricing under the 340B drug pricing program by adding new entities to the program.

In addition, other legislative changes have been proposed and adopted in the United States since the PPACA was enacted. On August 2, 2011, the Budget Control Act of 2011 among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers up to 2% per fiscal year, which went into effect on April 1, 2013. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

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

Ethical, social and legal concerns about gene therapy and genetic research could result in additional regulations restricting or prohibiting the products and processes we may use. Even with the requisite approvals from the FDA in the United States and other government bodies internationally, the commercial success of our product candidates will depend in part on the medical community's, patients', and third-party payors' acceptance of gene therapy products in general, and our product candidates in particular, as medically necessary, cost-effective, and safe. Any product that we bring to the market may not gain market acceptance by physicians, patients, third-party payors and others in the medical community. If these products do not achieve an adequate level of acceptance, we may not generate significant product revenue and may not become profitable. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- the efficacy and safety of such product candidates as demonstrated in clinical trials;
- the potential and perceived advantages of product candidates over alternative treatments;
- the clinical indications for which the product candidate is approved;
- the safety of product candidates seen in a broader patient group, including its use outside the approved indications;
- the prevalence and severity of any side effects;
- product labeling or product insert requirements of the FDA or other regulatory authorities, including any limitations or warnings contained in a product's approved labeling;
- the cost of treatment relative to alternative treatments;
- relative convenience and ease of administration;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support;
- the timing of market introduction of competitive products;
- publicity concerning our products or competing products and treatments; and
- sufficient third-party insurance coverage and reimbursement.

Even if a potential product displays a favorable efficacy and safety profile in preclinical studies and clinical trials, market acceptance of the product will not be fully known until after it is launched. Our efforts to educate the medical community and third-party payors on the benefits of the product candidates may require significant resources and may never be successful. Such efforts to educate the marketplace may require more resources than are required by the conventional technologies marketed by our competitors. If any of our product candidates is approved but fails to achieve market acceptance among physicians, patients, or health care payors, we will not be able to generate significant revenues from such product, which could have a material adverse effect on our business, prospects, financial condition and results of operations.

If we obtain approval to commercialize our product candidates outside of the United States, a variety of risks associated with international operations could materially adversely affect our business.

If any of our product candidates are approved for commercialization, we may enter into agreements with third parties to market them on a worldwide basis or in more limited geographical regions. We expect that we will be subject to additional risks related to entering into international business relationships, including:

- different regulatory requirements for approval of drugs and biologics in foreign countries;
- the potential for so-called parallel importing, which is what happens when a local seller, faced with high or higher local prices, opts to import goods from a foreign market (with low or lower prices) rather than buying them locally;
- challenges enforcing our contractual and intellectual property rights, especially in those foreign countries that do not respect and protect intellectual property rights to the same extent as the United States;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;
- difficulties staffing and managing foreign operations;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- potential liability under the Foreign Corrupt Practices Act of 1977 or comparable foreign regulations;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geopolitical actions, including war and terrorism, or natural disasters including earthquakes, typhoons, floods and fires.

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

We may not be successful in our efforts to identify or discover additional product candidates.

The success of our business depends primarily upon our ability to identify, develop and commercialize product candidates based on our gene therapy platform. Although certain of our product candidates are currently in clinical or preclinical development, we may fail to identify other potential product candidates for clinical development for a number of reasons. For example, our research methodology may be unsuccessful in identifying potential product candidates or our potential product candidates may be shown to have harmful side effects or may have other characteristics that may make the products unmarketable or unlikely to receive marketing approval.

If any of these events occur, we may be forced to abandon our development efforts with respect to a particular product candidate, which would have a material adverse effect on our business and could potentially cause us to cease operations. Research programs to identify new product candidates require substantial technical, financial and human resources. We may focus our efforts and resources on potential programs or product candidates that ultimately prove to be unsuccessful.

Risks related to our business operations

We incur significant increased costs as a result of operating as a public company, and our management devotes substantial time to new compliance initiatives.

As a public company, we have incurred and will continue to incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act, as well as rules subsequently implemented by the Securities and Exchange Commission, or SEC, and The NASDAQ Global Market impose various requirements on public companies. In July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, was enacted. There are significant corporate governance and executive compensation related provisions in the Dodd-Frank Act that require the SEC to adopt additional rules and regulations in these areas. Recent legislation permits us, as a smaller "emerging growth company," to implement many of these requirements over a longer period and up to five years from the date of our initial public offering, which was March 26, 2014. We are taking advantage of the flexibility accorded to us by this legislation but cannot guarantee that we will not be required to implement these requirements sooner than budgeted or planned and thereby incur unexpected expenses. Stockholder activism, the current political environment and the current high level of government intervention and regulatory reform may lead to substantial new regulations and disclosure obligations, which may lead to additional compliance costs and impact the manner in which we operate our business in ways we cannot currently anticipate.

We may not be successful in complying with these obligations, and compliance with these obligations could be time-consuming and expensive. If these requirements divert the attention of our management and personnel from other business concerns, they could have a material adverse effect on our business, financial condition and results of operations. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, which in turn could make it more difficult for us to attract and retain qualified members of our board of directors. The increased costs will decrease our net income or increase our net loss, and may require us to reduce costs in other areas of our business or increase the prices of our products or services.

We have identified material weaknesses in our internal control over financial reporting, and if we are unable to achieve and maintain effective internal control over financial reporting, investors could lose confidence in our financial statements and our company which could have a material adverse effect on our business and our stock price.

Our management has determined that as of June 30, 2014 and 2013, we had material weaknesses in our internal control over financial reporting, which relate to the design and operation of our closing and financial reporting processes and our accounting for debt, equity and convertible instruments. We have concluded that these material weaknesses in our internal control over financial reporting are due to the fact that we do not have the appropriate resources with the appropriate level of experience and technical expertise to oversee our closing and financial reporting processes and to address the accounting and financial reporting requirements related to our issuances of convertible notes, preferred stock warrants, stock options, preferred stock and preferred stock purchase rights. These material weaknesses have not yet been remediated.

If we fail to fully remediate these material weaknesses or fail to maintain effective internal controls in the future, it could result in a material misstatement of our financial statements that would not be prevented or detected on a timely basis, which could cause investors to lose confidence in our financial information or cause our stock price to decline. Our independent registered public accounting firm has not assessed the effectiveness of our internal control over financial reporting and, under the JOBS Act, will not be required to provide an attestation report on the effectiveness of our internal control over financial reporting so long as we qualify as an emerging growth company, which may increase the risk that weaknesses or deficiencies in our internal control over financial reporting go undetected.

If we are unable to manage expected growth in the scale and complexity of our operations, our performance may suffer.

If we are successful in executing our business strategy, we will need to expand our managerial, operational, financial and other systems and resources to manage our operations, continue our research and development activities, and, in the longer term, build a sales force and commercial infrastructure to support commercialization of any of our product candidates that are approved for sale. Future growth would impose significant added responsibilities on members of management. It is possible that our management, finance, development personnel, systems and facilities currently in place may not be adequate to support this future growth. Our need to effectively manage our operations, growth and products requires that we continue to develop more robust business processes and improve our systems and procedures in each of these areas and to attract and retain sufficient numbers of talented employees. We may be unable to successfully implement these tasks on a larger scale and, accordingly, may not achieve our research, development and growth goals.

We may enter into or seek to enter into business partnerships, combinations and/or acquisitions which may be difficult to integrate, disrupt our business, divert management attention or dilute stockholder value.

A key element of our strategy is to enter into business partnerships, combinations and/or acquisitions. We have limited experience in making acquisitions, which are typically accompanied by a number of risks, including:

- the difficulty of integrating the operations and personnel of the acquired companies;
- the potential disruption of our ongoing business and distraction of management;
- potential unknown liabilities and expenses;
- the failure to achieve the expected benefits of the combination or acquisition;
- the maintenance of acceptable standards, controls, procedures and policies; and
- the impairment of relationships with employees as a result of any integration of new management and other personnel.

If we are not successful in completing acquisitions that we may pursue in the future, we would be required to reevaluate our business strategy and we may have incurred substantial expenses and devoted significant management time and resources in seeking to complete the acquisitions. In addition, we could use substantial portions of our available cash as all or a portion of the purchase price, or we could issue additional securities as consideration for these acquisitions, which could cause our stockholders to suffer significant dilution.

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

We are highly dependent on our executive officers, the loss of whose services may adversely impact the achievement of our objectives. Recruiting and retaining other qualified employees, consultants and advisors for our business, including scientific and technical personnel, will also be critical to our success. There is currently a shortage of skilled executives and scientific personnel in our industry, which is likely to continue. As a result, competition for skilled personnel is intense and the turnover rate can be high. We may not be able to attract and retain personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for individuals with similar skill sets. In addition, failure to succeed in preclinical studies or clinical trials may make it more challenging to recruit and retain qualified personnel. The inability to recruit or loss of the services of any executive, key employee, consultant or advisor may impede the progress of our research, development and commercialization objectives.

In order to induce valuable employees to remain at AGTC, in addition to salary and cash incentives, we have provided stock options that vest over time. The value to employees of stock options that vest over time may

be significantly affected by movements in our stock price that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies.

Despite our efforts to retain valuable employees, members of our management, scientific and development teams may terminate their employment with us. The loss of the services of any of our executive officers or other key employees and our inability to find suitable replacements could potentially harm our business, prospects, financial condition or results of operations. We do not maintain "key man" insurance policies on the lives of these individuals or any of our other employees. Our success also depends on our ability to continue to attract, retain and motivate highly skilled junior, mid-level, and senior managers as well as junior, mid-level, and senior scientific and medical personnel.

Many of the other biotechnology and pharmaceutical companies that we compete against for qualified personnel have greater financial and other resources, different risk profiles and a longer history in the industry than we do. They may also provide more diverse opportunities and better chances for career advancement. Some of these characteristics may be more appealing to high quality candidates than what we can offer. If we are unable to continue to attract and retain high quality personnel, the rate and success at which we can discover, develop and commercialize product candidates will be limited.

Our employees, principal investigators, consultants and commercial partners may engage in misconduct or other improper activities.

We are exposed to the risk that our employees, CROs, principal investigators, consultants and commercial partners may engage in fraudulent conduct or other illegal activity or may fail to disclosure unauthorized activities to us. Misconduct by these parties could include intentional, reckless and/or negligent failures to comply with:

- the laws and regulations of the FDA and non-U.S. regulators, including those laws requiring the reporting of true, complete and accurate information to such regulatory bodies;
- manufacturing standards we have established;
- healthcare fraud and abuse laws and regulations in the United States and similar foreign laws; or
- laws requiring the accurate reporting of financial information or data or the disclosure of unauthorized activities to us.

In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Such misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and cause serious harm to our reputation. We have adopted a code of conduct applicable to all of our employees, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

We may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws and health information privacy and security laws. If we are unable to comply, or have not fully complied, with such laws, we could face substantial penalties.

Our operations may be directly, or indirectly through our prescribers, customers and purchasers, subject to various federal and state fraud and abuse laws. If we obtain FDA approval for any of our product candidates and

begin commercializing those products in the United States, many of these laws will become more directly applicable to our operations, including, without limitation, the federal Health Care Program Anti-Kickback Statute, the federal civil and criminal False Claims Acts and Physician Payments Sunshine Act and regulations. These laws may impact, among other things, our proposed sales, marketing and educational programs. In addition, we may be subject to patient privacy laws by both the federal government and the states in which we conduct our business. The laws that may affect our ability to operate include, but are not limited to:

- the federal Health Care Program Anti-Kickback Statute, which prohibits, among other things, persons or entities from knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind in return for, the purchase, recommendation, leasing or furnishing of an item or service reimbursable under a federal healthcare program, such as the Medicare and Medicaid programs;
- federal civil and criminal false claims laws and civil monetary penalty laws, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment or approval from Medicare, Medicaid, or other government payers that are false or fraudulent;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created new federal criminal statutes that prohibit a person from knowingly and willfully executing a scheme or from making false or fraudulent statements to defraud any healthcare benefit program, regardless of the payor (e.g., public or private);
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, and its implementing regulations, and as amended again by the final HIPAA omnibus rule, Modifications to the HIPAA Privacy, Security, Enforcement, and Breach Notification Rules Under HITECH and the Genetic Information Nondiscrimination Act; Other Modifications to HIPAA, published in January 2013, which imposes certain requirements relating to the privacy, security and transmission of individually identifiable health information without appropriate authorization by entities subject to the rule, such as health plans, health care clearinghouses and health care providers;
- federal transparency laws, including the federal Physician Payment Sunshine Act that requires disclosure of payments and other transfers of value provided to physicians and teaching hospitals, and ownership and investment interests held by physicians and other healthcare providers and their immediate family members and applicable group purchasing organizations;
- the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or the Affordable Care Act, and its implementing regulations, which may impact, among other things, reimbursement rates by federal health care programs and commercial insurers;
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;
- federal government price reporting laws, which require us to calculate and report complex pricing metrics to government programs, where such reported prices may be used in the calculation of reimbursement and/or discounts on our marketed drugs, when and if approved; participation in these programs and compliance with the applicable requirements may subject us to potentially significant discounts on our products, when and if approved, increased infrastructure costs and potentially limit our ability to offer certain marketplace discounts; and
- state law equivalents of each of the above federal laws, such as anti-kickback and false claims laws which may apply to items or services reimbursed by any third-party payor, including commercial insurers; state laws that require pharmaceutical companies to comply with the industry's voluntary compliance guidelines and the applicable compliance guidance promulgated by the federal government, or otherwise restrict certain payments that may be made to healthcare providers and other potential referral sources; state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing

expenditures; and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts in certain circumstances, such as specific disease states.

In addition, any sale of our products or product candidates, if commercialized outside of the United States, may also subject us to foreign laws governing prescription drug marketing and fraud and abuse, including laws similar to the U.S. healthcare laws mentioned above. Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws. In addition, recent health care reform legislation has strengthened these laws. For example, the PPACA, among other things, amends the intent requirements of the federal Anti-Kickback Statute and the criminal statute governing healthcare fraud. A person or entity can now be found guilty of violating the Anti-Kickback Statute and the federal criminal healthcare fraud statute without actual knowledge of the statute or specific intent to violate it. In addition, the PPACA provides that the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal False Claims Act.

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

If the use of our product candidates harms patients, we could be subject to costly and damaging product liability claims.

The use of our product candidates in clinical trials and the sale of any products for which we obtain marketing approval exposes us to the risk of product liability claims. Product liability claims might be brought against us by consumers, healthcare providers, pharmaceutical companies or others selling or otherwise coming into contact with our products. For example, we may be sued if any product candidate we develop allegedly causes injury or is found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability, and a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend against product liability claims, we could incur substantial liability and costs. In addition, regardless of merit or eventual outcome, product liability claims may result in:

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

Our inability to obtain and retain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of products we develop. While we believe our product liability insurance coverage is sufficient in light of our current clinical programs, The amount of the product liability coverage that we carry varies from time to time, depending on a number of factors, the most significant of which are the nature and scope of the clinical trials in which we are engaged and the number of patients being treated with our product candidates in these trials. The amount of our product liability coverage as of June 30, 2014 was $10.0 million. This amount may increase or decrease in the future. We may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability and any claim that may be brought against us could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by our insurance or that is in excess of the limits of our insurance coverage. If and when we obtain marketing approval for product candidates, we intend to expand our insurance coverage to include the commercial sale of our products; however, we may be unable to obtain product liability insurance on commercially reasonable terms or in adequate amounts. Our insurance policies also have various exclusions, and we may be subject to a product liability claim for which we have no coverage. A successful product liability claim or series of claims brought against us could cause our stock price to decline and, if judgments exceed our insurance coverage, could adversely affect our results of operations and business.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment, manufacture and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. Although we believe that our procedures for using, handling, storing and disposing of these materials comply with legally prescribed standards, we cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties.

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials or other work-related injuries, this insurance may not provide adequate coverage against potential liabilities. In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

We rely on our relationship with a professional employer organization for our human relations function and as a co-employer of our personnel, and if that party failed to perform its responsibilities under that relationship, our relations with our employees could be damaged and we could incur liabilities that could have a material adverse effect on our business.

All of our personnel, including our executive officers, are co-employees of AGTC and a professional employer organization, TriNet HR Corporation, or TriNet. Under the terms of our arrangement, TriNet is the formal employer of all of our personnel, and is responsible for administering all payroll, including tax withholding, and providing health insurance and other benefits for these individuals. We reimburse TriNet for these costs, and pay TriNet an administrative fee for its services. If TriNet fails to comply with applicable laws, or its obligations under this arrangement, our relationship with our employees could be damaged. We could, under certain circumstances, be held liable for a failure by TriNet to appropriately pay, or withhold and remit required taxes from payments to, our employees. In such a case, our potential liability could be significant and could have a material adverse effect on our business.

We or the third parties upon whom we depend may be adversely affected by natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Substantially all of our operations are conducted from our headquarters located near Gainesville, Florida. Hurricanes or other natural disasters could severely disrupt our operations, damage our research facilities or destroy stored research materials that could be difficult to replace, and otherwise have a material adverse effect on our business, results of operations, financial condition and prospects. In addition, despite the implementation of security measures, our internal computer systems and those of our current and any future CROs and other contractors and consultants and collaborators are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our development programs and our business operations. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure or that otherwise disrupted our operations or the operations of our third-party contract manufacturer, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. For example, the loss of clinical trial data from our clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. If our security measures, disaster recovery and business continuity plans are not adequate in the event of such a breach, serious disaster or similar event, we could incur substantial expenses and the further development and commercialization of our product candidates could be delayed, which could have a material adverse effect on our business.

Interruptions in the supply of product or inventory loss may adversely affect our operating results and financial condition.

Our product candidates are manufactured using technically complex processes requiring specialized facilities, highly specific raw materials and other production constraints. The complexity of these processes, as well as strict company and government standards for the manufacture and storage of our products, subjects us to production risks. While product batches released for use in clinical trials or for commercialization undergo sample testing, some defects may only be identified following product release. In addition, process deviations or unanticipated effects of approved process changes may result in these intermediate products not complying with stability requirements or specifications. Most of our product candidates must be stored and transported at temperatures within a certain range. If these environmental conditions deviate, our product candidates' remaining shelf-lives could be impaired or their efficacy and safety could become adversely affected, making them no longer suitable for use. The occurrence or suspected occurrence of production and distribution difficulties can lead to lost inventories, and in some cases product recalls, with consequential reputational damage and the risk of product liability. The investigation and remediation of any identified problems can cause production delays, substantial expense, lost sales and delays of new product launches. Any interruption in the supply of finished products or the loss thereof could hinder our ability to timely distribute our products and satisfy customer demand. Any unforeseen failure in the storage of the product or loss in supply could delay our clinical trials and, if our product candidates are approved, result in a loss of our market share and negatively affect our revenues and operations.

We may use our financial and human resources to pursue a particular research program or product candidate and fail to capitalize on programs or product candidates that may be more profitable or for which there is a greater likelihood of success.

Because we have limited resources, we may forego or delay pursuit of opportunities with certain programs or product candidates or for indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs for product candidates may not yield any commercially viable products. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate

through strategic collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate, or we may allocate internal resources to a product candidate in a therapeutic area in which it would have been more advantageous to enter into a partnering arrangement.

Our ability to use our net operating loss carryforwards may be subject to limitation.

Under Section 382 of the Internal Revenue Code of 1986, as amended, substantial changes in our ownership may limit the amount of net operating loss carryforwards that could be utilized annually in the future to offset our taxable income. Specifically, this limitation may arise in the event of a cumulative change in ownership of our company of more than 50% within a three-year period. Any such annual limitation may significantly reduce the utilization of our net operating loss carryforwards before they expire. We have not completed a study to assess whether an ownership change has occurred, or whether there have been multiple ownership changes since our inception, due to the significant costs and complexities associated with such a study. However, we believe it is likely that transactions that have occurred in the past and other transactions that may occur in the future, would trigger an ownership change pursuant to Section 382, which could limit the amount of net operating loss carryforwards that could be utilized annually in the future to offset our taxable income, if any.

Cyber attacks or other breaches of network or other information technology security could have an adverse effect on our business.

Cyber attacks or other breaches of network or information technology security may cause equipment failures or disruptions to our operations. While, to date, we have not been subject to cyber attacks or other cyber incidents which, individually or in the aggregate, have been material to our operations or financial condition, the preventative actions we take to prevent or detect the risk of cyber incidents and protect our information technology and networks may be insufficient to prevent or detect a major cyber attack in the future. If we fail to prevent the theft of valuable information such as financial data, sensitive information about the us, our patients or our intellectual property, or if we fail to protect the privacy of patient and employee confidential data against breaches of network or information technology security, it would result in damage to our reputation, which could adversely impact the confidence of our partners, investors and employees. Any of these occurrences could result in a material adverse effect on our results of operations and financial condition.

Risks related to our intellectual property

If we are unable to obtain and maintain patent protection for our technology and products or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize technology and products similar or identical to ours, and our ability to successfully commercialize our technology and products may be impaired.

Our success depends in large part on our ability to obtain and maintain patent protection in the United States and other countries with respect to our proprietary technology and products. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our novel technologies and product candidates.

The patent prosecution process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Moreover, in some circumstances, we do not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license from third parties. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. For example, European patent law restricts the patentability of methods of treatment of the human body more than United States law does. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot know with certainty whether we were the first to make the inventions claimed in our owned or licensed patents or pending patent applications, or that we were the first to file for patent protection of such inventions. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not result in issued patents that protect our technology or products, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection.

Moreover, we may be subject to a third-party preissuance submission of prior art to the United States Patent and Trademark Office, or become involved in opposition, derivation, reexamination, inter partes review, post-grant review or interference proceedings challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

Even if our owned and licensed patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors from competing with us or otherwise provide us with any competitive advantage. Our competitors may be able to circumvent our owned or licensed patents by developing similar or alternative technologies or products in a non-infringing manner.

In addition, the issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

Third parties may initiate legal proceedings alleging claims of intellectual property infringement, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties. There is a substantial amount of litigation, both within and outside the United States, involving patent and other intellectual property rights in the biotechnology and pharmaceutical industries, including patent infringement lawsuits, interferences, oppositions and *inter partes* reexamination proceedings before the United States Patent and Trademark Office and corresponding foreign patent offices. Numerous United States and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are pursuing development candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may be subject to claims of infringement of the patent rights of third parties.

Third parties may assert that we are employing their proprietary technology without authorization. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Because patent applications can take many years to issue, there may be currently pending patent applications that may later result in issued patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. If any third-party patents were held by a court of competent jurisdiction to cover the manufacturing process of any of our product candidates, any molecules formed during the manufacturing process or any final product itself, the holders of any such patents may be able to block our ability to commercialize such product candidate unless we obtained a license under the applicable patents, or until such patents expire.

Similarly, if any third-party patents were held by a court of competent jurisdiction to cover aspects of our formulations, methods for manufacture or methods of use, including combination therapy, the holders of any such patents may be able to block our ability to develop and commercialize the applicable product candidate unless we obtained a license or until such patent expires. In either case, such a license may not be available on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us.

Parties making claims against us may obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize one or more of our product candidates. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, pay royalties, redesign our infringing products or obtain one or more licenses from third parties, which may be impossible or require substantial time and monetary expenditure.

We may not be successful in obtaining or maintaining necessary rights to gene therapy product components and processes for our development pipeline through acquisitions and in-licenses.

Presently we have rights to the intellectual property to develop our gene therapy product candidates. Because a key element of our business strategy is to pursue in-licensing and intellectual property acquisitions for additional product candidates that may require the use of proprietary rights held by third parties, the growth of our business will likely depend in part on our ability to acquire, in-license or use these proprietary rights. In addition, our product candidates may require specific formulations to work effectively and efficiently and these rights may be held by others. We may be unable to acquire or in-license any compositions, methods of use, processes or other third-party intellectual property rights from third parties that we identify on terms that we find acceptable, or at all. The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies are also pursuing strategies to license or acquire third-party intellectual property rights that we may consider attractive. These established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities.

For example, we sometimes collaborate with United States and foreign academic institutions to accelerate our preclinical research or development under written agreements with these institutions. Typically, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Regardless of such right of first negotiation for intellectual property, we may be unable to negotiate a license within the specified time frame or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to other parties, potentially blocking our ability to pursue our program.

In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third-party intellectual property rights on terms that would allow us

to make an appropriate return on our investment. If we are unable to successfully obtain rights to required third-party intellectual property rights, our business, financial condition and prospects for growth could suffer.

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

Licensing of intellectual property is of critical importance to our business and involves complex legal, business and scientific issues and is complicated by the rapid pace of scientific discovery in our industry. We are a party to intellectual property license agreements with the University of Florida Research Foundation, an affiliate of the University of Florida, Johns Hopkins University, the UAB Research Foundation, an affiliate of The University of Alabama at Birmingham and the Trustees of the University of Pennsylvania, each of which is important to our business, and we expect to enter into additional license agreements in the future. Our existing license agreements impose, and we expect that future license agreements will impose, various diligence, milestone payment, royalty and other obligations on us. If we fail to comply with our obligations under these agreements, or we are subject to a bankruptcy, the licensor may have the right to terminate the license, in which event we would not be able to market products covered by the license.

We may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates, and we have done so from time to time. It is possible that we may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In that event, we may be required to expend significant time and resources to develop or license replacement technology. If we are unable to do so, we may be unable to develop or commercialize the affected product candidates, which could harm our business significantly. We cannot provide any assurances that third-party patents do not exist which might be enforced against our current product candidates or future products, resulting in either an injunction prohibiting our sales, or, with respect to our sales, an obligation on our part to pay royalties and/or other forms of compensation to third parties.

In many cases, patent prosecution of our licensed technology is controlled solely by the licensor. If our licensors fail to obtain and maintain patent or other protection for the proprietary intellectual property we license from them, we could lose our rights to the intellectual property or our exclusivity with respect to those rights, and our competitors could market competing products using the intellectual property. In certain cases, we control the prosecution of patents resulting from licensed technology. In the event we breach any of our obligations related to such prosecution, we may incur significant liability to our licensing partners. Disputes may arise regarding intellectual property subject to a licensing agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- the sublicensing of patent and other rights under our collaborative development relationships;
- our diligence obligations under the license agreement and what activities satisfy those diligence obligations;
- the ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and
- the priority of invention of patented technology.

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates.

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

Competitors may infringe our patents or other intellectual property or the patents or other intellectual property of our licensors. In response, we may be required to file infringement claims, which can be expensive and time-consuming. Any claims we assert against perceived infringers could provoke these parties to assert counterclaims against us, alleging that we infringe their patents. In addition, in a patent infringement proceeding, a court may decide that a patent of ours or our licensors is invalid or unenforceable, in whole or in part, construe the patent's claims narrowly or refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceeding could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

Interference proceedings provoked by third parties or brought by us may be necessary to determine the priority of inventions with respect to our patents or patent applications or those of our licensors. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Our defense of litigation or interference proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. We may not be able to prevent, alone or with our licensors, misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock.

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

If we or one of our licensing partners initiate legal proceedings against a third party to enforce a patent covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate is invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the United States Patent and Trademark Office, or made a misleading statement, during prosecution. Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post grant review, and equivalent proceedings in foreign jurisdictions. Such proceedings could result in the revocation of or amendment to our patents in such a way that they no longer cover our product candidates. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity or unenforceability, we could lose at least part, and perhaps all, of the patent protection on one or more of our product candidates. Such a loss of patent protection could have a material adverse impact on our business.

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

We employ individuals who were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees, consultants and independent contractors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of any of our employee's former employer or other third parties. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel, which could adversely impact our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

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

We may be subject to claims that former employees, collaborators or other third parties have an ownership interest in our patents or other intellectual property. While it is our policy to require our employees and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact develops intellectual property that we regard as our own. We could be subject to ownership disputes arising, for example, from conflicting obligations of consultants or others who are involved in developing our product candidates. Litigation may be necessary to defend against these and other claims challenging inventorship or ownership. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

Intellectual property litigation could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could compromise our ability to compete in the marketplace.

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

Periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or applications will be due to be paid to the United States Patent and Trademark Office and various governmental patent agencies outside of the United States in several stages over the lifetime of the patents and/or applications. We

rely on our outside counsel to pay these fees due to non-U.S. patent agencies. The United States Patent and Trademark Office and various non-U.S. governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply, and in many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. However, there are situations in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, potential competitors might be able to enter the market and this circumstance could have a material adverse effect on our business.

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

As is the case with other biotechnology companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biotechnology industry involve both technological and legal complexity, and therefore obtaining and enforcing biotechnology patents is costly, time-consuming and inherently uncertain.

Recent patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. On September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law. The Leahy-Smith Act includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications are prosecuted and may also affect patent litigation. The United States Patent and Trademark Office recently developed new regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, and in particular, the first to file provisions, only became effective on March 16, 2013. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

Moreover, recent United States Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on decisions by the United States Congress, the federal courts, and the United States Patent and Trademark Office, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future.

We have not yet sought FDA approval of names for any of our product candidates and failure to secure such approvals could adversely affect our business.

Any name we propose to use with our product candidates in the United States must be approved by the FDA, regardless of whether we have registered it, or applied to register it, as a trademark. The FDA typically conducts a review of proposed product names, including an evaluation of potential for confusion with other product names. If the FDA objects to any of our proposed proprietary product names, we may be required to expend significant additional resources in an effort to identify a suitable substitute name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA.

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

Filing, prosecuting and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect

intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Risks related to ownership of our common stock

An active trading market for our common stock may not be sustained.

Although we have listed our common stock on The NASDAQ Global Market, an active trading market for our common stock may not be sustained. In the absence of an active trading market for our common stock, you may not be able to resell shares of our common stock at or above the price you paid, or at all.

The market price for our common stock may be volatile, which could contribute to the loss of your investment.

Fluctuations in the price of our common stock could contribute to the loss of all or part of your investment. If an active market for our common stock develops and continues, the trading price of our common stock is likely to continue to be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. Any of the factors listed below could have a material adverse effect on your investment in our common stock. In such circumstances the trading price of our common stock may not recover and may experience a further decline.

Factors affecting the trading price of our common stock may include:

- our failure to develop and commercialize our product candidates;
- actual or anticipated fluctuations in our quarterly financial results or the quarterly financial results of companies perceived to be similar to us;
- changes in the market's expectations about our operating results;
- adverse results or delays in preclinical studies or clinical trials;
- our decision to initiate a clinical trial, not to initiate a clinical trial or to terminate an existing clinical trial;
- adverse regulatory decisions, including failure to receive regulatory approval for any of our product candidates;
- success of competitive products;

- adverse developments concerning our collaborations and our manufacturers;
- inability to obtain adequate product supply for any product candidate for clinical trials or commercial sale or inability to do so at acceptable prices;
- the termination of a collaboration or the inability to establish additional collaborations;
- unanticipated serious safety concerns related to the use of any of our product candidates;
- our ability to effectively manage our growth;
- the size and growth, if any, of the orphan ophthalmology and other targeted markets;
- our operating results failing to meet the expectation of securities analysts or investors in a particular period or failure of securities analysts to publish reports about us or our business;
- changes in financial estimates and recommendations by securities analysts concerning our company, the gene therapy market, or the biotechnology and pharmaceutical industries in general;
- operating and stock price performance of other companies that investors deem comparable to us;
- overall performance of the equity markets;
- announcements by us or our competitors of acquisitions, new product candidates or programs, significant contracts, commercial relationships or capital commitments;
- our ability to successfully market our product candidates;
- changes in laws and regulations affecting our business, including but not limited to clinical trial requirements for approvals;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our product candidates and gene therapy platform;
- commencement of, or involvement in, litigation involving our company, our general industry, or both;
- changes in our capital structure, such as future issuances of securities or the incurrence of additional debt;
- the volume of shares of our common stock available for public sale;
- additions or departures of key scientific or management personnel;
- any major change in our board or management;
- changes in accounting practices;
- ineffectiveness of our internal control over financial reporting;
- sales of substantial amounts of common stock by our directors, executive officers or significant stockholders or the perception that such sales could occur; and
- general economic and political conditions such as recessions, interest rates, fuel prices, international currency fluctuations and acts of war or terrorism.

Broad market and industry factors may materially harm the market price of our common stock irrespective of our operating performance. The stock market in general, and The NASDAQ Global Market and the market for biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of the particular companies affected. The trading prices and valuations of these stocks, and of ours, may not be predictable. A loss of investor confidence in the market for technology or software stocks or the stocks of other companies which investors perceive to be similar to us, the opportunities in the digital simulation market or the stock market in general, could depress our stock price regardless of our business, prospects, financial conditions or results of operations.

If securities analysts do not publish research or reports about our business or if they downgrade our stock, the price of our common stock could decline.

The trading market for our common stock relies in part on the research and reports that industry or financial analysts publish about us, our business, our markets and our competitors. We do not control these analysts. As a newly public company, we have only limited coverage by securities analysts. If securities analysts do not continue to cover our common stock, the lack of research coverage may adversely affect the market price of our common stock. Furthermore, if one or more of the analysts who do cover us downgrade our stock or if those analysts issue other unfavorable commentary about us or our business, our stock price would likely decline. If one or more of these analysts cease coverage of us or fails to regularly publish reports on us, we could lose visibility in the market and interest in our stock could decrease, which in turn could cause our stock price or trading volume to decline and may also impair our ability to expand our business with existing customers and attract new customers.

The concentration of our capital stock ownership with insiders will limit your ability to influence corporate matters.

As of June 30, 2014, our executive officers, employees, directors, current 5% or greater stockholders, and their respective affiliates together beneficially own or control, in aggregate, approximately 63.2% of the shares of our outstanding common stock. As a result, these executive officers, directors and principal stockholders, acting together, will have substantial influence over most matters that require approval by our stockholders, including the election of directors, any merger, consolidation or sale of all or substantially all or of our assets or any other significant corporate transaction. Corporate action might be taken even if other stockholders oppose such action. These stockholders may delay or prevent a change of control or otherwise discourage a potential acquirer from attempting to obtain control of our company, even if such change of control would benefit our other stockholders. This concentration of stock ownership may adversely affect investors' perception of our corporate governance or delay, prevent or cause a change in control of our company, any of which could adversely affect the market price of our common stock.

We are an "emerging growth company," and the reduced reporting requirements applicable to emerging growth companies may make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act. For as long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. We could be an emerging growth company for up to five years from the date of our initial public offering on March 26, 2014, although circumstances could cause us to lose that status earlier, including if the market value of our common stock held by non-affiliates exceeds $700.0 million as of any December 31 before that time or if we have total annual gross revenue of $1.0 billion or more during any fiscal year before that time, in which cases we would no longer be an emerging growth company as of the following June 30 or, if we issue more than $1.0 billion in non-convertible debt during any three-year period before that time, we would cease to be an emerging growth company immediately. Even after we no longer qualify as an emerging growth company, we may still qualify as a "smaller reporting company" which would allow us to take advantage of many of the same exemptions from disclosure requirements, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

Under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies. As a result, changes in rules of U.S. generally accepted accounting principles or their interpretation, the adoption of new guidance or the application of existing guidance to changes in our business could significantly affect our financial position and results of operations.

A significant portion of our total outstanding shares is restricted from immediate resale but may be sold into the market in the near future, which could cause the market price of our common stock to decline significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares of common stock intend to sell shares, could reduce the market price of our common stock. As of September 19, 2014, we have 16,387,711 shares of common stock outstanding. Other than the aggregate 7,091,667 shares sold by us in our initial public offering and our July 2014 follow-on offering, substantially all of the outstanding shares of our common stock are subject to a 180-day contractual lock-up with the underwriters for our initial public offering, which period began on March 26, 2014. Of these, approximately 9.1 million shares are subject to an additional 90-day contractual lock-up with the underwriters for our follow-on offering, which period began on July 24, 2014. These shares can be sold, subject to any applicable volume limitations under federal securities laws, after the earlier of the expiration of, or release from, the applicable lock-up period. The balance of our outstanding shares of common stock may be freely sold in the public market at any time to the extent permitted by Rules 144 and 701 under the Securities Act of 1933, as amended, which we refer to as the Securities Act. Moreover, holders of a substantial portion of our common stock have rights, subject to conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders.

In addition, as of June 30, 2014, there were 1,023,748 shares subject to outstanding options under our equity incentive plans, all of which shares we plan to register under the Securities Act on a registration statement on Form S-8. These shares, once vested and issued upon exercise, will be able to be freely sold in the public market, subject to volume limits applicable to affiliates and the lock-up agreements described above, to the extent applicable. Furthermore, as of June 30, 2014, there were 49,811 shares subject to outstanding warrants. These shares will become eligible for sale in the public market to the extent such warrants are exercised and to the extent permitted by the lock-up agreements and Rule 144 under the Securities Act.

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

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

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

We have never declared or paid any cash dividends on our common stock. We currently intend to retain any future earnings to fund our future growth and do not expect to declare or pay any dividend on shares of our

common stock in the foreseeable future. As a result, you may only receive a return on your investment in our common stock if the market price of our common stock appreciates and you sell your shares at a price above your cost.

We could be subject to securities class action litigation.

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

Anti-takeover provisions in our amended and restated certificate of incorporation and amended and restated bylaws, as well as provisions in Delaware law, might discourage, delay or prevent a change of control of our company or changes in our management and, therefore, depress the trading price of our common stock.

Our certificate of incorporation, bylaws and Delaware law contain provisions that could have the effect of rendering more difficult or discouraging an acquisition deemed undesirable by our board of directors, even if doing so would benefit our stockholders or remove our current management. Our corporate governance documents include provisions:

- providing for three classes of directors with the term of office of one class expiring each year, commonly referred to as a staggered board;
- authorizing blank check preferred stock, which could be issued with voting, liquidation, dividend and other rights superior to our common stock;
- limiting the liability of, and providing indemnification to, our directors and officers;
- eliminating the ability of our stockholders to call and bring business before special meetings and to take action by written consent in lieu of a meeting;
- requiring advance notice of stockholder proposals for business to be conducted at meetings of our stockholders and for nominations of candidates for election to our board of directors;
- controlling the procedures for the conduct and scheduling of board and stockholder meetings;
- limiting the determination of the number of directors on our board and the filling of vacancies or newly created seats on the board to our board of directors then in office; and
- providing that directors may be removed by stockholders only for cause.

These provisions, alone or together, could delay hostile takeovers and changes in control or changes in our management.

As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation Law, which prohibits a publicly-held Delaware corporation from engaging in a business combination with an interested stockholder, generally a person which together with its affiliates owns, or within the last three years has owned, 15% of our voting stock, for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner.

The existence of the foregoing provisions and anti-takeover measures could limit the price that investors might be willing to pay in the future for shares of our common stock. They could also deter potential acquirers of our company, thereby reducing the likelihood that you could receive a premium for your common stock in an acquisition.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our corporate headquarters are located in Alachua, Florida. Our current leased facilities encompass approximately 6,975 square feet of office and laboratory space. The leases for the laboratory facilities expire on December 31, 2014, subject to our option to renew for up to two additional one-year terms. The leases for the office facilities expire on December 31, 2014 and December 31, 2015. We are currently reviewing the possibility of consolidating our office and laboratory facilities into a single location nearby, and believe that suitable space will be available on commercially reasonable terms.

ITEM 3. LEGAL PROCEEDINGS

We are not a party to any pending legal proceedings. However, because of the nature of our business, we may be subject at any particular time to lawsuits or other claims arising in the ordinary course of our business, and we expect that this will continue to be the case in the future

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

Market Information

Our common stock has been listed on The NASDAQ Global Market under the symbol "AGTC" since March 27, 2014. Prior to that date, there was no public market for our common stock. The following table sets forth, for the periods indicated, the high and low intraday sales prices of our common stock as reported by The NASDAQ Global Market:

	High	Low
Third fiscal quarter 2014 (beginning March 27, 2014)	$16.82	$12.50
Fourth fiscal quarter 2014	$34.37	$11.10

As of September 19, 2014, a total of 16,387,711 shares of our common stock were outstanding and we had 52 holders of record of our common stock.

Dividend Policy

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all available funds and future earnings, if any, to finance the growth and development of our business. We do not expect to pay any cash dividends on our common stock in the foreseeable future.

Unregistered Sales of Equity Securities

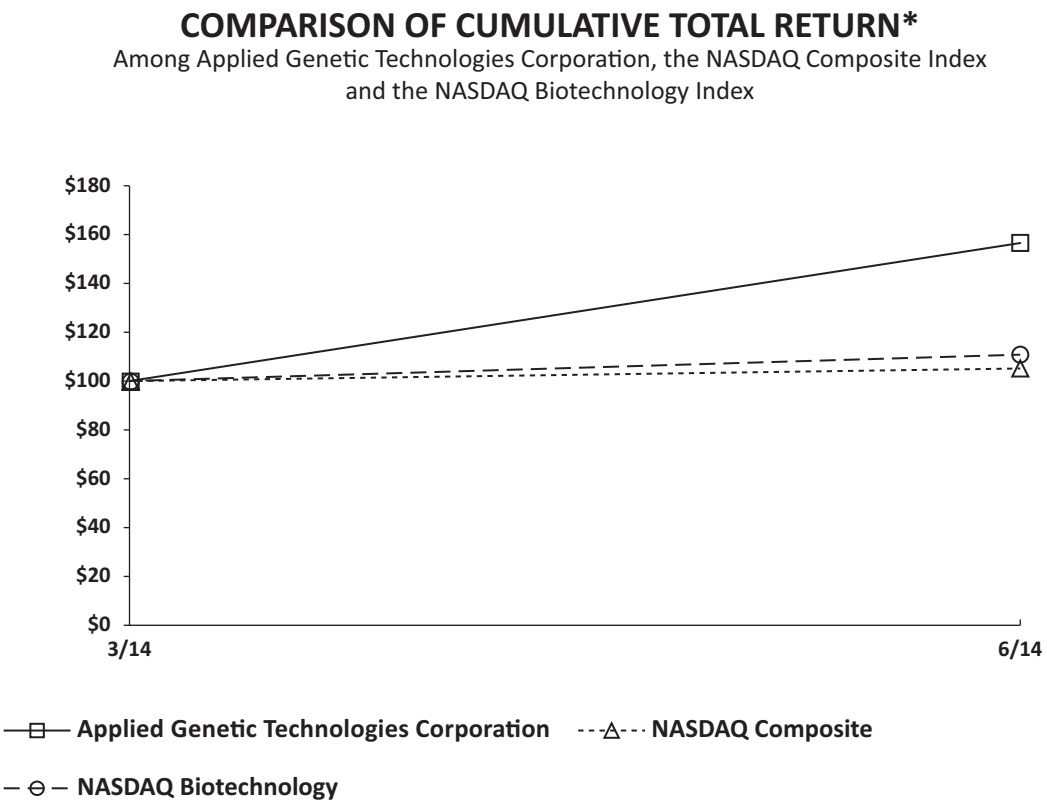
Between April 1, 2014 and June 30, 2014, we issued to certain of our directors, officers and employees options to purchase an aggregate 155,193 shares of our common stock at an exercise price of $14.08 per share. During the same period, we issued 4,149 shares of our common stock to an employee pursuant to exercises of options granted under our 2001 Stock Option Plan, resulting in aggregate cash consideration to us of $4,690.

The sale of the above securities were exempt from registration under the Securities Act of 1933, as amended, or the Securities Act, in reliance upon Section 4(a)(2) of the Securities Act and Rule 701 promulgated under Section 3(b) of the Securities Act as a transaction by an issuer not involving any public offering and pursuant to benefit plans and contracts relating to compensation as provided under Rule 701.

For information regarding securities authorized for issuance under our equity compensation plans, see Part III, Item 12, "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters."

Comparative Stock Performance

The following stock performance graph compares the cumulative total return to stockholders for our common stock for the period commencing March 27, 2014 (the date on which our common stock commenced trading on The NASDAQ Global Market) and ended June 30, 2014 against the cumulative total return of the NASDAQ Composite Index and the NASDAQ Biotechnology Index. The calculation of total cumulative returns assumes a $100 investment in our common stock, the NASDAQ Composite Index and the NASDAQ Biotechnology Index, and assumes reinvestment of all dividends, if any. The historical information set forth below is not necessarily indicative of future performance.



*$100 invested on 3/27/14 in stock or 3/31/14 in index, including reinvestment of dividends.
Fiscal year ending June 30.

	3/14	6/14
Applied Genetic Technologies Corporation	100.00	156.50
NASDAQ Composite Index	100.00	105.11
NASDAQ Biotechnology Index	100.00	110.54

Use of Proceeds from Initial Public Offering of Common Stock

On April 1, 2014, we consummated the closing of the initial public offering, or IPO, of our common stock pursuant to our Registration Statement on Form S-1 (File No. 333-193309), which was declared effective by the Securities and Exchange Commission on March 26, 2014. The underwriters for the offering were BMO Capital Markets Corp., Wedbush Securities Inc., Cantor Fitzgerald & Co. and Roth Capital Partners, LLC.

We issued and sold 4,791,667 shares of common stock in the offering, including 625,000 shares sold pursuant to the exercise of the underwriters' over-allotment option, at an initial public offering price of $12.00 per share. The aggregate sale price for all of the shares sold by us was $57.5 million, resulting in net proceeds to us of $51.6 million after payment of underwriting discounts and commissions and legal, accounting and other fees incurred in connection with the offering. No payments were made by us to any of our directors, officers or persons owning ten percent or more of our common stock or to their associates, or to our affiliates from the net proceeds of the offering. There was no material change in the use of proceeds from the planned use of proceeds described in the final prospectus for our IPO filed with the Securities and Exchange Commission on March 27, 2014 pursuant to Rule 424(b).

We did not utilize any of the net proceeds from our IPO during the three months ended June 30, 2014.

ITEM 6: SELECTED FINANCIAL DATA

The following selected financial data should be read in conjunction with our financial statements and related notes in Part II, Item 8 of this Annual Report on Form 10-K and with our "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of this Annual Report on Form 10-K.

Our selected statement of operations data for the fiscal years ended June 30, 2014, 2013 and 2012 and our selected balance sheet data as of June 30, 2014 and 2013 are derived from our audited financial statements included elsewhere in this report. Our historical results are not necessarily indicative of results to be expected for any future period. The selected financial data in this section are not intended to replace our financial statements and the related notes.

Selected Financial Data

	Fiscal Year Ended June 30,		
	2014	2013	2012
	(in thousands except per share data)		
Statement of Operations Data:			
Revenue:			
Grant revenue	$ 917	$ 439	$ 718
Sponsored research revenue	212	503	364
Total revenue	1,129	942	1,082
Operating expenses:			
Research and development	8,503	3,133	2,354
General and administrative	5,182	1,403	787
Total operating expenses	13,685	4,536	3,141
Loss from operations	(12,556)	(3,594)	(2,059)
Other income (expense):			
Interest income	42	10	—
Interest expense	—	(191)	(69)
Fair value adjustments to warrant liabilities (1)	(441)	(8)	204
Fair value adjustments to Series B purchase rights (1)	(2,904)	(1,207)	—
Other	(49)	—	—
Total other (expense) income, net	(3,352)	(1,396)	135
Net loss	$(15,908)	$(4,990)	$(1,924)
Net loss per share, basic and diluted (2)	$ (4.46)	$(45.78)	$(17.65)
Weighted-average shares outstanding, basic and diluted (2)	3,568	109	109

	As of June 30,		
	2014	2013	2012
	(in thousands)		
Balance Sheet Data:			
Cash and cash equivalents	$ 8,623	$ 8,893	$ 774
Short-term investments	$64,450	$ 14,000	$ —
Total assets	$77,407	$ 25,490	$ 2,824
Current liabilities	$ 2,534	$ 3,460	$ 1,494
Convertible preferred stock	$ —	$ 58,103	$ 32,524
Total stockholders' equity (deficit)	$74,873	$(36,183)	$(31,290)

(1) See Note 6 of Notes to Financial Statements appearing elsewhere in this annual report on Form 10-K for a description of the fair value adjustments to our warrant liabilities and Series B purchase rights.

(2) See Note 2 of Notes to Financial Statements appearing elsewhere in this annual report on Form 10-K for a description of the method used to calculate basic and diluted net loss per share.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the financial statements and notes included in Part IV, Item 15 of this Annual Report on Form 10-K. In addition to historical financial information, the following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Annual Report, including but not limited to those set forth in "Cautionary Note Regarding Forward-Looking Statements" and "Risk Factors."

Overview

We are a clinical-stage biotechnology company that uses our proprietary gene therapy platform to develop products designed to transform the lives of patients with severe inherited orphan diseases in ophthalmology. Our lead product candidates, which are each in the preclinical stage, are treatments for X-linked retinoschisis, or XLRS, achromatopsia, or ACHM, and X-linked retinitis pigmentosa, or XLRP. These rare diseases of the eye are caused by mutations in single genes, significantly affect visual function and currently lack effective medical treatments. For our XLRS product candidate, we expect to file an IND and initiate Phase 1/2 clinical trials in the United States in late 2014 with initial clinical data expected in mid-2015. For our ACHM product candidate, we expect to file an IND and initiate Phase 1/2 clinical trials in the United States in early 2015, with clinical data expected in late 2015. We have also begun preclinical studies for our product candidate addressing XLRP, a disease characterized by progressive degeneration of the retina, leading to total blindness in adult men. We also plan to develop new treatments for wet AMD by leveraging our experience developing products in orphan ophthalmology and our work with Genzyme on a first generation product for wet AMD. In the longer term, we will seek opportunities to take advantage of the adaptability of our gene therapy platform to address a range of genetic diseases, both within and beyond our initial focus area of orphan ophthalmology.

Since our inception in 1999, we have devoted substantially all of our resources to our development efforts relating to our proof-of-concept programs in ophthalmology and alpha-1 antitrypsin deficiency, or AAT deficiency, an inherited orphan lung disease, including activities to manufacture product in compliance with good manufacturing practices, preparing to conduct and conducting clinical trials of our product candidates, providing general and administrative support for these operations and protecting our intellectual property. We do not have any products approved for sale and have not generated any revenue from product sales. We have funded our operations primarily through the private placement of preferred stock, common stock, convertible notes and warrants to purchase preferred stock and our initial public offering, which closed in April 2014. We have also been awarded grant funding aggregating $10.6 million between our inception and June 30, 2014, either independently or with our collaborators. Most recently, in May 2013, we and the University of Florida, or UF, were jointly awarded an $8.3 million dollar grant from the National Eye Institute, or NEI, of the National Institutes of Health, or NIH, to support development of our ACHM product candidate. As a sub-awardee, as of June 30, 2014, we had received $0.4 million and we expected to receive an additional $3.5 million over the remaining three years of this grant.

We have incurred losses from operations in each year since inception. Our net losses were $15.9 million, $5.0 million and $1.9 million for each of the fiscal years ended June 30, 2014, 2013 and 2012, respectively. Substantially all our net losses resulted from costs incurred in connection with our research and development programs and from general and administrative costs associated with our operations. We expect to continue to incur significant expenses and increasing operating losses for at least the next several years. We expect our expenses will increase substantially in connection with our ongoing activities, as we:

- conduct preclinical studies and clinical trials for our XLRS, ACHM and XLRP product candidates;
- continue our research and development efforts, including exploration through early preclinical studies of potential applications of our gene therapy platform in other indications in orphan ophthalmology and in wet AMD;

- manufacture clinical trial materials and develop large-scale manufacturing capabilities;
- seek regulatory approval for our product candidates;
- further develop our gene therapy platform;
- add personnel to support our product development and commercialization efforts; and
- operate as a public company.

As of June 30, 2014, we had cash and cash equivalents and short-term investments of $73.1 million.

We do not expect to generate revenue from product sales unless and until we successfully complete development and obtain regulatory approval for one or more of our product candidates, which we expect will take a number of years and which we believe is subject to significant uncertainty. We believe that our existing cash and cash equivalents at June 30, 2014, together with the net proceeds from our public offering in July 2014, will be sufficient to enable us to advance planned preclinical studies and clinical trials for our lead product candidates for at least the next 24 months. In order to complete the process of obtaining regulatory approval for our lead product candidates and to build the sales, marketing and distribution infrastructure that we believe will be necessary to commercialize our lead product candidates, if approved, we will require substantial additional funding. Also, our current operating plan may change as a result of many factors currently unknown to us, and we may need to seek additional funds sooner than planned, through public or private equity or debt financings, government or other third-party funding, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements or a combination of these approaches. However, we may be unable to raise additional funds or enter into such other arrangements when needed on favorable terms or at all. Our failure to raise capital or enter into such other arrangements as and when needed would have a negative impact on our financial condition and our ability to develop our products.

We expect to incur losses for the foreseeable future, and we expect these losses to increase as we continue our development of, and seek regulatory approvals for, our product candidates and begin to commercialize any approved products. Because of the numerous risks and uncertainties associated with product development, we are unable to predict the timing or amount of increased expenses or when or if we will be able to achieve or maintain profitability. Our ability to generate revenue from product sales will depend on a number of factors, including, among others, obtaining and maintaining adequate coverage and reimbursement from third-party payors for our product candidates and for gene therapy as a viable treatment option. Even if we are able to generate revenues from the sale of our products, we may not become profitable. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations at planned levels and be forced to reduce our operations.

Financial operations overview

Revenue

Our ability to generate product revenue and become profitable depends upon our ability to successfully commercialize products. To date, we have not generated any revenues from the sales of products. In the three fiscal years ended June 30, 2014, 2013 and 2012, all our revenues were derived from grants. Our grant revenue is primarily generated through research and development grant programs offered by federal, state, and local governments and agencies, including the United States Food and Drug Administration, or FDA, and by patient advocacy groups such as the Foundation Fighting Blindness, or FFB, and the Alpha-1 Foundation. Grant revenue is recognized when there is reasonable assurance that the grant will be received and we have complied with the terms of the grant. Prior to fiscal year 2012, we also derived revenue from collaboration and license fees received under our agreement with Genzyme Corporation, or Genzyme. We currently do not expect to derive substantial additional revenue from our agreement with Genzyme.

Research and development expenses

Research and development expenses consist primarily of costs incurred for the development of our product candidates, which include:

- employee-related expenses, including salaries, benefits, travel and share-based compensation expense;
- expenses incurred under agreements with academic research centers, contract research organizations, or CROs, and investigative sites that conduct our clinical trials;
- the cost of acquiring, developing, and manufacturing clinical trial materials; and
- facilities, depreciation, and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, insurance, and other supplies.

Research and development costs are expensed as incurred. Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors and our clinical sites.

We cannot determine with certainty the duration and completion costs of the current or future clinical trials of our product candidates or if, when, or to what extent we will generate revenues from the commercialization and sale of any of our product candidates that obtain regulatory approval. We may never succeed in achieving regulatory approval for any of our product candidates. The duration, costs, and timing of clinical trials and development of our product candidates will depend on a variety of factors, including:

- the scope, rate of progress, and expense of our ongoing as well as any additional clinical trials and other research and development activities;
- the countries in which trials are conducted;
- future clinical trial results;
- uncertainties in clinical trial enrollment rates or drop-out or discontinuation rates of patients;
- potential additional safety monitoring or other studies requested by regulatory agencies;
- significant and changing government regulation; and
- the timing and receipt of any regulatory approvals.

A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. For example, if the FDA, or another regulatory authority were to require us to conduct clinical trials beyond those that we currently anticipate will be required for the completion of clinical development of a product candidate or if we experience significant delays in enrollment in any of our clinical trials, we could be required to expend significant additional financial resources and time on the completion of clinical development.

From inception through June 30, 2014, we have incurred approximately $54.9 million in research and development expenses. Our research and development expenses, categorized by product candidate or program, in fiscal years 2014, 2013 and 2012 were as follows:

Product candidate or program	Fiscal year ended June 30, 2014	2013	2012
		(in thousands)	
XLRS	$2,364	$ 929	$ 633
ACHM	2,899	685	151
LCA2	32	312	265
Other orphan ophthalmology indications	110	70	—
General research and process development	1,704	746	711
AAT deficiency	1,394	391	594
Total	$8,503	$3,133	$2,354

We plan to increase our research and development expenses for the foreseeable future as we continue the development of our XLRS, ACHM and XLRP product candidates and explore potential applications of our gene therapy platform in other indications. Our current planned research and development activities include the following:

- we expect to file an IND and initiate in late 2014 Phase 1/2 clinical trials in the United States to examine the feasibility, safety and efficacy of our XLRS product candidate;
- we expect to file an IND and initiate in early 2015 Phase 1/2 clinical trials in the United States to examine the feasibility, safety and efficacy of our ACHM product candidate;
- we are currently designing preclinical studies to further evaluate the ability of an AAV vector to delay disease progression in animal models of XLRP. If these studies are successful, we will conduct additional preclinical studies required for submission of an IND to the FDA;
- we are currently reviewing possible targets for development of a treatment for wet AMD. If this review is successful, we will conduct preclinical studies required for submission of an IND to the FDA;
- we intend to devote substantial research and development resources to expansion of our manufacturing capabilities; and
- we will continue to manufacture clinical trial materials in support of our clinical trials.

General and administrative expenses

General and administrative expenses consist primarily of salaries and related costs for personnel, including share-based compensation and travel expenses for our employees in executive, operational, finance and human resource functions. Other general and administrative expenses include facility-related costs and professional fees for directors, accounting and legal services and expenses associated with obtaining and maintaining patents.

We anticipate that our general and administrative expenses will increase in the future as we increase our headcount to support our continued research and development and potential commercialization of our product candidates. We also anticipate increased expenses related to audit, legal, regulatory, and tax-related services associated with maintaining compliance with NASDAQ listing and Securities and Exchange Commission requirements, director and officer insurance premiums, and investor relations costs associated with being a public company. Additionally, if and when we believe a regulatory approval of the first product candidate appears likely, we anticipate an increase in payroll and related expenses as a result of our preparation for commercial operations, especially as it relates to the sales and marketing of our product candidates.

Other income (expense), net

Other income and expense consists primarily of interest earned on cash and cash equivalents and short-term investments, interest incurred on our bridge and bank loans, loss on disposal of property and equipment and re-measurement gain or loss associated with the change in the fair value of our Series B purchase rights liability and our preferred stock warrants liability.

We used the Black-Scholes option pricing model to estimate the fair value of our Series B purchase rights liability and preferred stock warrant liability. We based the estimates in the Black-Scholes option pricing model, in part, on subjective assumptions, including stock price volatility, risk-free interest rate, dividend yield, and the fair value of the preferred stock underlying the purchase rights and the warrants. The re-measurement gain or loss associated with the changes in the fair value of our Series B purchase rights liability and preferred stock warrant liability in each reporting period is recognized as a component of other income (expense), net.

Critical accounting policies and significant judgments and estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, and expenses and the disclosure of contingent assets and liabilities in our financial statements. On an ongoing basis, we evaluate our estimates and judgments, including those related to accrued expenses and share-based compensation. We base our estimates on historical experience, known trends and events, and various other factors that are believed to be 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 these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in the notes to our financial statements appearing elsewhere in this annual report on Form 10-K, we believe the following accounting policies to be most critical to the judgments and estimates used in the preparation of our financial statements.

Revenue recognition

We have generated revenue primarily through sponsored research arrangements with nonprofit organizations for the development and commercialization of product candidates and revenues from federal research and development grant programs. We recognize revenue when amounts are realized or realizable and earned. Revenue is considered realizable and earned when the following criteria are met: (1) persuasive evidence of an arrangement exists; (2) delivery has occurred or services have been rendered; (3) the price is fixed or determinable; and (4) collection of the amounts due are reasonably assured.

Amounts received prior to satisfying the revenue recognition criteria are recorded as deferred revenue in our balance sheets. Amounts expected to be recognized as revenue within the twelve months following the balance sheet date are classified as current liabilities. We recognize revenue for reimbursements of research and development costs under collaboration agreements as the services are performed. We record these reimbursements as revenue and not as a reduction of research and development expenses, as we have the risks and rewards as the principal in the research and development activities.

We evaluate the terms of sponsored research agreement grants and federal grants to assess our obligations and if our obligations are satisfied by the passage of time, revenue is recognized on a straight-line basis. In situations where the performance of our obligations has been satisfied when the grant is received, revenue is recognized upon receipt of the grant. Certain grants contain refund provisions. We review those refund provisions to determine the likelihood of repayment. If the likelihood of repayment of the grant is determined to

be remote, the grant is recognized as revenue. If the probability of repayment is determined to be more than remote, we record the grant as a deferred revenue liability, until such time that the grant requirements have been satisfied.

Research and development costs and expenses

Research and development costs are charged to expense as incurred. We recognize costs for certain development activities based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors and our clinical sites. When outside contracts for research products or testing require advance payments, they are recorded on the balance sheet as a prepaid item and expensed when the service is provided or reaches a specific milestone outlined in the contract.

Share-based compensation

We account for our share-based compensation in accordance with ASC 718, *Compensation—Stock Compensation*. ASC 718 establishes accounting for share-based awards exchanged for employee services. Under the fair value recognition provisions of ASC 718, share-based compensation cost is measured at the grant date based on the fair value of the award and is recognized as expense over the requisite service/vesting period. Determining the appropriate fair value model and calculating the fair value of share-based payment awards require the use of highly subjective assumptions, including the expected life of the share-based payment awards and stock price volatility.

We estimate the grant date fair value of stock options and the related compensation expense using the Black-Scholes option valuation model. This option valuation model requires the input of subjective assumptions including: (1) estimated period of time outstanding, or expected term, of the options granted, (2) volatility, (3) risk-free interest rate and (4) expected dividend yield. Because share-based compensation expense is based on awards ultimately expected to vest, it is reduced for estimated forfeitures. ASC 718 requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeiture rates differ from those estimates. We have estimated expected forfeitures of stock options based on our historical turnover rate and used these rates in developing a future forfeiture rate. If our actual forfeiture rate varies from our estimates, additional adjustments to compensation expense may be required in future periods. The assumptions used in calculating the fair value of share-based payment awards represent management's best estimates, but the estimates involve inherent uncertainties and the application of management judgment. As a result, if facts change and we use different assumptions, our share-based compensation expense could be materially different in the future. We will no longer be required to estimate the fair value of our common stock underlying new equity awards after our initial public offering, now that our shares have begun trading on The NASDAQ Global Market.

Warrant liability

As of June 30, 2013 and 2012, we had warrants outstanding to purchase shares of our Series A-1, Series A-1A and Series B-1 preferred stock. Because our Series A-1, Series A-1A and Series B-1 preferred stock were subject to redemption under circumstances outside of our control, the outstanding shares of these series of preferred stock are presented as temporary equity for those periods. Consequently, the warrants to purchase shares of Series A-1, Series A-1A and Series B-1 preferred stock were accounted for as liabilities and adjusted to fair value at the end of each reporting period. The fair value of the warrants classified as liabilities was estimated using the Black-Scholes option pricing model. The estimates in the Black-Scholes option pricing model were based, in part, on subjective assumptions, including stock price volatility, term of the warrants, risk free interest rate, dividend yield, and fair value of the preferred stock underlying the warrants. The gain or loss associated with the change in the fair value of the preferred stock warrant liability from the prior period is recognized as a component of other (expense) income, net.

Upon the closing of our initial public offering, these warrants were converted into warrants exercisable for common stock.

Series B purchase rights

In November 2012, we entered into a Series B-1, B-2 and B-3 Preferred Stock Purchase Agreement, or Series B Purchase Agreement, which authorized the sale of up to 290,781,972 shares of convertible preferred stock in three separate tranches of Series B-1, Series B-2 and Series B-3 preferred stock, respectively. Simultaneously with the execution of the Series B Purchase Agreement, we issued and sold an aggregate of 66,147,709 shares of Series B-1 preferred stock at a price per share of $0.1297. The Series B Purchase Agreement provided that the holders of the Series B-1 shares, or Series B holders, were also entitled to purchase up to an aggregate of 140,542,178 shares of Series B-2 preferred stock for an aggregate purchase price equal to $18.2 million, or second tranche, and up to an aggregate of 82,670,167 shares of Series B-3 preferred stock for an aggregate purchase price equal to $10.7 million, or third tranche. The price per share and number of shares to be issued in exchange for such amount was to be determined separately for each tranche by reference to which, if any, of three milestones specified in the agreement had been satisfied by us.

The purchase rights were legally separable and exercisable apart from the Series B-1 shares and, because representatives of the Series B holders hold a majority of the seats on the board of directors, the decision to complete the second and third tranche was deemed to be outside our control. We therefore recorded, at the time of entry into the Series B Purchase Agreement, a Series B purchase rights liability of $1.7 million for the fair value of our obligation to sell the Series B-2 and Series B-3 preferred stock in the second and third tranche. The Series B purchase rights liability was valued separately for each series using the Black-Scholes option-pricing method to assign a value to the purchase right relating to that series under each of the possible applicable valuation scenarios, depending on which milestones were met, with each scenario being assigned an estimated probability as of the valuation date. The aggregate of these probability-weighted valuations was assigned as the value of the purchase right for each tranche. The initial fair value of the Series B purchase rights liability was estimated to be $0.6 million for the second tranche and $1.1 million for the third tranche. The total value allocated to the Series B purchase rights reduced the amount allocated to the carrying value of the Series B-1 preferred stock on our balance sheet.

The most significant and judgmental inputs driving the fair value of our Series B purchase rights are the assumptions regarding the fair value of the underlying preferred shares and the volatility factor. With all other inputs constant, an increase or decrease in the assumed fair value of the preferred shares would result in a higher or lower estimate of the fair value of the Series B purchase rights, respectively, although there would not be a direct correlation. Similarly, an increase or decrease in the assumed volatility factor would result in a higher or lower estimate of the fair value of the Series B purchase rights, respectively.

In April 2013, following the satisfaction by us of the first milestone, the Series B holders exercised their rights with respect to the second tranche and purchased an aggregate of 122,749,639 shares of Series B-2 preferred stock at a price per share of $0.1485, for gross cash proceeds of $18.2 million. During fiscal year 2013, we recorded a change in value of the Series B purchase rights liability of $1.2 million to other expense and the $0.8 million balance of the value allocated to the Series B-2 purchase rights liability immediately prior to the closing of the second tranche was recorded as proceeds from the issuance of the Series B-2 preferred stock.

In October 2013, the Series B holders exercised their rights with respect to the third tranche and on November 5, 2013, we sold to the Series B holders an aggregate of 58,816,897 shares of our Series B-3 preferred stock at a price per share of $0.1823 (or $6.38 on an as-converted to common stock basis), for gross cash proceeds of $10.7 million. In connection with the closing of the third tranche, we and the Series B holders amended the terms of the Series B purchase agreement to provide that if the two remaining milestones specified in the Series B Purchase Agreement are not satisfied by September 2014, the Series B holders who continue to hold shares of Series B-3 preferred stock will be entitled to receive an aggregate of approximately 13.4 million additional shares of Series B-3 preferred stock. This right was extinguished upon the conversion to common stock of all outstanding shares of our preferred stock upon the closing of our initial public offering.

During the year ended June 30, 2014, we recorded a change in value of the Series B purchase right liability of $2.9 million to other expense, and $5.0 million allocated to the Series B-3 purchase right immediately prior to the closing of the third tranche was reallocated to the carrying value of the Series B-3 preferred stock.

The significant assumptions used as inputs in the Black-Scholes valuation were as follows:

	For the years ended June 30,	
Assumption	**2014**	**2013**
Exercise price	$0.15 to $0.18	$0.15 to $0.18
Years to maturity	0.00 to 1.00	0.08 to 1.87
Risk-free interest rate	0.06% to 0.10%	0.04% to 0.25%
Expected volatility	55.00% to 85.00%	55.00% to 60.00%

Recent Accounting Pronouncements

In May 2014, the FASB issued guidance that requires companies to recognize revenue to depict the transfer of goods or services to customers in amounts that reflect the consideration to which the company expects to be entitled in exchange for those goods or services. It also requires enhanced disclosures about revenue, provides guidance for transactions that were not previously addressed comprehensively, and improves guidance for multiple-element arrangements. The guidance applies to any entity that either enters into contracts with customers to transfer goods or services or enters into contracts for the transfer of nonfinancial assets unless those contracts are within the scope of other standards. The guidance is effective for public companies for annual periods beginning after December 15, 2016 as well as interim periods within those annual period using either the full retrospective approach or modified retrospective approach. Early adoption is not permitted. We are currently evaluating the impacts of the new guidance on our financial statements.

In July 2013, the FASB issued amended guidance on the financial statement presentation of an unrecognized tax benefit when a net operating loss carryforward, similar tax loss, or tax credit carryforward exists. The guidance requires an unrecognized tax benefit, or a portion of an unrecognized tax benefit, to be presented as a reduction of a deferred tax asset when a net operating loss carryforward, similar tax loss, or tax credit carryforward exists, with certain exceptions. This accounting guidance was effective for annual and interim periods beginning after December 15, 2013. We adopted this new guidance beginning with our interim financial statements for the three months ended March 31, 2014. The adoption of this standard did not have a material impact on our financial statements.

Emerging growth company status

The JOBS Act permits an "emerging growth company" such as ours to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We have chosen to "opt out" of this provision and, as a result, we will comply with new or revised accounting standards as required when they are adopted. This decision to opt out of the extended transition period under the JOBS Act is irrevocable.

Results of operations

Comparison of the fiscal years ended June 30, 2014 and 2013

Revenue

	Fiscal year ended June 30,		Increase	% Increase
	2014	**2013**	**(Decrease)**	**(Decrease)**
		(dollars in thousands)		
Grant revenue	$ 917	$439	$ 478	109%
Sponsored research revenue	212	503	(291)	(58)%
Total revenue	$1,129	$942	$ 187	20%

Total revenue for fiscal year 2014 increased by $187 thousand to $1.1 million compared to fiscal year 2013. The increase was primarily driven by higher grant revenue resulting from the inception of new grant-funded projects, partially offset by decreased sponsored research revenue due to the timing in achieved milestones.

Research and development expense

	Fiscal Year Ended June 30,		Increase (Decrease)	% Increase (Decrease)
	2014	2013		
	(dollars in thousands)			
Research and development expense	$8,503	$3,133	$5,370	171%

Research and development expense for fiscal year 2014 increased by $5.4 million to $8.5 million compared to fiscal year 2013. The increase was the result of increased activity relating to our XLRS, ACHM and other product candidates, including increased facilities costs relating to laboratory expansion and increased personnel costs relating to new hires.

General and administrative expense

	Fiscal Year Ended June 30,		Increase (Decrease)	% Increase (Decrease)
	2014	2013		
	(dollars in thousands)			
General and administrative expense	$5,182	$1,403	$3,779	269%

General and administrative expense for fiscal year 2014 increased by $3.8 million to $5.2 million compared to fiscal year 2013. The increase was primarily the result of increased legal and accounting expenses associated with the Company's readiness for its initial public offering and related public company costs, along with increased overhead and personnel costs associated with new hires.

Other income (expense), net

Other income (expense), net for fiscal year 2014 was a net expense of $3.4 million, an increase of $2.0 million compared to fiscal year 2013. The higher expense was largely the result of fair value adjustments associated with our Series B purchase rights and our warrant liabilities, which increased by $1.7 million and $433 thousand, respectively, compared to fiscal year 2013. As previously discussed above, the fair values of the Series B purchase rights and warrant liabilities were estimated using the Black-Scholes option pricing model which requires some subjective assumptions as some of its inputs. As of June 30, 2014, these Series B purchase rights had been fully exercised and the warrants had been converted into warrants exercisable for common stock.

Comparison of the fiscal years ended June 30, 2013 and 2012

Revenue

	Fiscal year ended June 30,		Increase (Decrease)	% Increase (Decrease)
	2013	2012		
	(dollars in thousands)			
Grant revenue	$439	$ 718	$(279)	(39)%
Sponsored research revenue	503	364	139	38%
Total revenue	$942	$1,082	$(140)	(13)%

Total revenue for fiscal year 2013 decreased by $140 thousand to $942 thousand compared to fiscal year 2012. The lower revenue was primarily driven by a year-over-year decrease of $279 thousand in grant revenue due to timing of the release of funding under our FDA orphan grants relating to our LCA2 and AAT deficiency product candidates. This revenue decrease was partially offset by a $139 thousand increase in sponsored research revenue from increased activity under our sponsored research arrangement with FFB related to the development of our XLRS product candidate.

Research and development expense

	Fiscal Year Ended June 30,		Increase (Decrease)	% Increase (Decrease)
	2013	2012		
	(dollars in thousands)			
Research and development expense	$3,133	$2,354	$779	33%

Research and development expense for fiscal year 2013 increased by $779 thousand to $3.1 million compared to fiscal year 2012. The increase was the result of increased activity relating to our XLRS and ACHM product candidates, including increased facilities costs relating to new laboratory expansion, increased personnel costs relating to new hires and the acquisition of related laboratory supplies, partially offset by reduced activities on our AAT product candidate,.

General and administrative expense

	Fiscal Year Ended June 30,		Increase (Decrease)	% Increase (Decrease)
	2013	2012		
	(dollars in thousands)			
General and administrative expense	$1,403	$787	$616	78%

General and administrative expense for fiscal year 2013 increased by $616 thousand to $1.4 million compared to fiscal year 2012. The increase was primarily the result of increased overhead and personnel costs.

Other income (expense), net

Other income (expense), net for fiscal year 2013 was a net expense of $1.4 million compared to a net income of $135 thousand in fiscal 2012, an increase in expense of $1.5 million. The higher expense was largely the result of an increase in unfavorable fair value adjustments associated with our Series B purchase rights and our warrant liabilities totaling an aggregate of $1.4 million.

Liquidity and capital resources

We have incurred cumulative losses and negative cash flows from operations since our inception in 1999, and as of June 30, 2014, we had an accumulated deficit of $64.3 million. It will be several years, if ever, before we have a product candidate ready for commercialization, and we anticipate that we will continue to incur losses for at least the next several years. We expect that our research and development and general and administrative expenses will continue to increase and, as a result, we will need additional capital to fund our operations, which we may raise through a combination of equity offerings, debt financings, other third-party funding, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements.

In August 2012, we amended our existing term loan facility with Square 1 Bank to provide for up to an additional $0.5 million of available funding. We borrowed the full amount in September 2012. The loan bore interest at 9% per annum through December 2012 and 7% per annum thereafter. We were required to make monthly payments of interest only through December 2012. Thereafter, the loan was to be repaid through 24 equal monthly installments of principal and accrued interest. In April 2013, we repaid all outstanding principal and accrued interest and terminated the loan facility.

In connection with the funding of the loan, we issued to Square 1 Bank a warrant to purchase 276,968 shares of our Series B-1 preferred stock at an exercise price of $0.1297 per share. The warrants were exercisable at any time until the seventh anniversary of their date of issuance.

As of June 30, 2014, we had cash and cash equivalents and short-term investments of $73.1 million. This amount does not include the net proceeds of $32 million from our public offering of common stock that closed subsequent to June 30, 2014. Cash in excess of immediate requirements is invested in accordance with our investment policy, primarily with a view to liquidity and capital preservation. Currently, our cash and cash equivalents are held in bank accounts. Our short-term investments consist of certificates of deposits with maturity dates falling within 182 and 364 days of the dates of purchase.

Cash flows

The following table sets forth the primary sources and uses of cash for each of the periods set forth below:

	Fiscal Year Ended June 30,		
	2014	2013	2012
		(in thousands)	
Net cash provided by (used in):			
Operating activities	$(11,928)	$ (2,777)	$(1,372)
Investing activities	(50,826)	(14,481)	(108)
Financing activities	62,484	25,377	427
Net (decrease) increase in cash and cash equivalents	$ (270)	$ 8,119	$(1,053)

Operating activities. Net cash used in operating activities was $11.9 million, $2.8 million and $1.4 million for fiscal years ended 2014, 2013 and 2012, respectively. The use of net cash in all periods primarily resulted from our net losses and changes in our working capital accounts.

Investing activities. Net cash used in investing activities for fiscal year 2014 was $50.8 million and consisted primarily of the purchase of $80.0 million of short-term investments using a portion of the proceeds from our initial public offering and the sale of shares of Series B-3 preferred stock, and payments totaling $376 thousand associated with the acquisition and maintenance of our intellectual property and purchase of equipment to support our continued research and development activities. These cash outflows were partially offset by $29.5 million of proceeds realized upon the maturity of short-term investments. Net cash used in investing activities for fiscal year 2013 was $14.5 million and consisted primarily of the purchase of $14.0 million of short-term investments using a portion of the proceeds from our sale of shares of Series B-1 and Series B-2 preferred stock, and payments totaling $531 thousand associated with the acquisition and maintenance of our intellectual property and purchase of property and equipment. Net cash used in investing activities for fiscal year 2012 was $108 thousand, primarily related to the acquisition and maintenance of intellectual property.

Financing activities. Net cash provided by financing activities for fiscal year 2014 was $62.5 million and consisted primarily of $51.6 million of net proceeds from the sale of common stock in our initial public offering, $10.7 million of proceeds from the issuance of our Series B-3 preferred stock and Series B purchase rights, and $194 thousand of cash received from the exercise of common stock options. Net cash provided by financing activities for fiscal year 2013 was $25.4 million and consisted primarily of the proceeds from the issuance of our Series B-1 and Series B-2 preferred stock of $25.7 million and proceeds of $507 thousand from the issuance of a term note and warrants, partially offset by total repayments of $857 thousand for debt and a capital lease. Net cash provided by financing activities for fiscal year 2012 was $427 thousand and consisted primarily of the proceeds from debt financing, net of repayments.

Operating capital requirements

To date, we have not generated any revenue from product sales. We do not know when, or if, we will generate any revenue from product sales. We do not expect to generate significant revenue from product sales

unless and until we obtain regulatory approval of and commercialize one of our current or future product candidates. We anticipate that we will continue to generate losses for the foreseeable future, and we expect the losses to increase as we continue the development of, and seek regulatory approvals for, our product candidates, and begin to commercialize any approved products. We are subject to all of the risks incident in the development of new gene therapy products, and we may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. Since the closing of our initial public offering, we have incurred additional costs associated with operating as a public company. We anticipate that we will need substantial additional funding in connection with our continuing operations.

We believe that our existing cash and cash equivalents at June 30, 2014, together with the net proceeds from our public offering in July 2014, will be sufficient to enable us to complete planned preclinical and clinical trials for our lead product candidates through at least the next 24 months. In order to complete the process of obtaining regulatory approval for our lead product candidates and to build the sales, marketing and distribution infrastructure that we believe will be necessary to commercialize our lead product candidates, if approved, we will require substantial additional funding.

We have based our projections of operating capital requirements on assumptions that may prove to be incorrect and we may use all of our available capital resources sooner than we expect. Because of the numerous risks and uncertainties associated with research, development and commercialization of pharmaceutical products, we are unable to estimate the exact amount of our operating capital requirements. Our future funding requirements will depend on many factors, including, but not limited to:

- the timing and costs our planned clinical trials for our XLRS and ACHM product candidates;
- the timing and costs of our planned preclinical studies of our XLRP product candidate;
- the initiation, progress, timing, costs and results of preclinical studies relating to potential applications of our gene therapy platform in other indications in orphan ophthalmology and wet AMD;
- our success in scaling our HAVE manufacturing method and expanding our manufacturing capabilities;
- the number and characteristics of product candidates that we pursue;
- the outcome, timing and costs of seeking regulatory approvals;
- subject to receipt of marketing approval, revenue received from commercial sales of our product candidates;
- the terms and timing of any future collaborations, licensing, consulting or other arrangements that we may establish;
- the amount and timing of any payments we may be required to make, or that we may receive, in connection with the licensing, filing, prosecution, defense and enforcement of any patents or other intellectual property rights;
- the costs of preparing, filing and prosecuting patent applications, maintaining and protecting our intellectual property rights and defending against intellectual property related claims; and
- the extent to which we in-license or acquire other products and technologies.

Contractual obligations and commitments

The following table summarizes our contractual obligations at June 30, 2014.

	Total	Less than 1 Year	1 to 3 Years	3 to 5 Years	More than 5 Years
			(in thousands)		
Operating lease obligations (1)	$72	$72	$—	$—	$—

(1) Obligations at June 30, 2014 consisted of obligations under noncancelable operating leases for office and laboratory space in Alachua, Florida that expire on December 31, 2014.

Contingent contractual obligations. We also have obligations arising under our license agreements to make future payments to third parties that become due and payable on the achievement of certain development, regulatory and commercial milestones (such as the start of a clinical trial, filing of a Biologics License Application, or BLA, approval by the FDA or product launch). We have not included these obligations on our balance sheet or in the table above because the achievement and timing of these milestones is not fixed nor determinable. These obligations include:

- Under each of our various licenses with the University of Florida Research Foundation, or UFRF, covering the AAV construct containing the AAT gene and the method to treat AAT deficiency using this construct, a small cone cell specific promoter, and the use of engineered capsids and under our joint license with UFRF and Johns Hopkins University covering a particular HSV construct and various compositions thereof, we will be required to make payments based upon development, regulatory and commercial milestones for any products covered by the in-licensed intellectual property. We will also be required to pay a royalty on net sale of products covered by the in-licensed intellectual property. The royalty is subject to reduction, subject to a minimum floor, for any third-party payments required to be made. We have the right to sublicense our rights under this agreement, and we will be required to pay a percentage of such license income. We are required to make annual maintenance payments under these licenses, which payments are creditable against royalty payments on a year-by-year basis.
- Under our license agreement with the UAB Research Foundation pursuant to which we license a patent covering the use of HSV helpers to produce AAV vectors, we will be required to make payments based upon development and regulatory milestones for any products covered by the in-licensed intellectual property. We will also be required to pay a royalty on net sale of products covered by the in-licensed intellectual property. The royalty is subject to reduction, subject to a minimum floor, for any third-party payments required to be made. We have the right to sublicense our rights under this agreement, and we will be required to pay a percentage of such license income. We are required to make annual maintenance payments under this license, which payments are creditable against royalty payments on a year-by-year basis.
- Under the terms of our license agreement with the Trustees of the University of Pennsylvania, pursuant to which we license intellectual property relating to AAV-mediated gene therapy for RPGR X-linked retinal degeneration, we will be required to make payments ranging from the low-five figures to the mid-six figures based upon the achievement of development, regulatory and commercial milestones for any products covered by the in-licensed intellectual property. Prior to commercialization, we are required to spend annually on research, development and commercialization expenses a minimum diligence expenditure ranging from the low- to mid- six figures. We will also be required to pay royalties on the net sale of products covered by the in-licensed intellectual property in the low single digits. The royalty is subject to reduction for any third-party payments required to be made, with a minimum floor ranging from the low-single digits or less, depending on the amount of annual net sales. The license is sublicenseable, and should we choose to sublicense we would be required to pay a percentage in the mid-single digits of the sublicense income that we receive. We are required to make annual maintenance payments for the license ranging from the low four figures to the low five figures. Following our commercialization of a product covered by the in-licensed intellectual property, we will also be required to make annual minimum royalty payments, which extend into five figures and are creditable against royalty payments on a year-to-year basis.

If any of our product candidates that utilize technology licensed under these agreements reached commercialization, we will be obligated to make royalty payments ranging from 0.5% to 4.0% of our net sales of the applicable product. We are responsible for a portion of the costs related to the preparation, filing, issuance,

prosecution and maintenance of the patents covered by the license agreements. In fiscal years 2014, 2013 and 2012, we paid annual royalty and license maintenance payments in the aggregate amounts of $87 thousand, $61 thousand and $41 thousand, respectively.

Based on the anticipated development timeline for our current product candidates described elsewhere in this annual report on Form 10-K, we estimate that the maximum aggregate amount of milestone payments that we will be required to make pursuant to these license agreements during fiscal years 2015, 2016, 2017 and 2018 and beyond is as follows:

Fiscal Year	Aggregate Milestone Payments
2015	$ 216,000 (1)
2016	$ 233,000
2017	$1,112,000
2018 and beyond	$3,964,000

(1) Consists of payments to UFRF, the UAB Research Foundation and Johns Hopkins University in connection with the achievement of regulatory milestones related to our ACHM and XLRS product candidates.

We enter into contracts in the normal course of business with contract research organizations for preclinical research studies, research supplies and other services and products for operating purposes. These contracts generally provide for termination on notice, and therefore are cancelable contracts and not included in the table of contractual obligations and commitments.

Off-balance sheet arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined in the rules and regulations of the Securities and Exchange Commission.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Sensitivity

We are exposed to market risk related to changes in interest rates. As of June 30, 2014, 2013 and 2012, we had cash and cash equivalents and short-term investments of $73.1 million, $22.9 million and $774 thousand, respectively, primarily held in bank accounts and certificates of deposit. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our investments are in short-term securities. Our available-for-sale securities are subject to interest rate risk and will fall in value if market interest rates increase. Due to the short-term duration of our investment portfolio and the low risk profile of our investments, an immediate 10% increase in interest rates would not have a material effect on the fair market value of our portfolio.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

APPLIED GENETIC TECHNOLOGIES CORPORATION
INDEX TO FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of Applied Genetic Technologies Corporation

We have audited the accompanying balance sheets of Applied Genetic Technologies Corporation (the Company) as of June 30, 2014 and 2013, and the related statements of operations, convertible preferred stock and stockholders' equity (deficit) and cash flows for each of the three years in the period ended June 30, 2014. Our audits also included the financial statement schedule of the Company listed in Item 15(a). These financial statements and financial statement 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. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and 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 financial position of Applied Genetic Technologies Corporation as of June 30, 2014 and 2013, the results of its operations and its cash flows for each of the three years in the period ended June 30, 2014, 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.

/s/ McGladrey LLP

Raleigh, North Carolina
September 26, 2014

APPLIED GENETIC TECHNOLOGIES CORPORATION
BALANCE SHEETS

In thousands, except per share data	At June 30, 2014	2013
ASSETS		
Current assets:		
Cash and cash equivalents	$ 8,623	$ 8,893
Short-term investments	64,450	14,000
Grants receivable	487	143
Prepaid and other current assets	1,876	475
Total current assets	75,436	23,511
Property and equipment, net	402	341
Intangible assets, net	1,565	1,630
Other assets	4	8
Total assets	$ 77,407	$ 25,490
LIABILITIES, CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities:		
Accounts payable	$ 949	$ 792
Accrued expenses	1,585	360
Deferred revenue	—	212
Series B purchase rights	—	2,096
Total current liabilities	2,534	3,460
Warrant liabilities	—	110
Total liabilities	$ 2,534	$ 3,570
Commitments and contingencies (See Note 7)		
Convertible preferred stock	—	58,103
Stockholders' equity (deficit):		
Common stock, par value $.001 per share, 150,000 and 410,000 shares authorized; 14,082 and 109 shares issued and outstanding at June 30, 2014 and 2013, respectively	14	—
Additional paid-in capital	139,193	12,243
Accumulated deficit	(64,334)	(48,426)
Total stockholders' equity (deficit)	74,873	(36,183)
Total liabilities, convertible preferred stock and stockholders' equity (deficit)	$ 77,407	$ 25,490

The accompanying notes are an integral part of the financial statements.

APPLIED GENETIC TECHNOLOGIES CORPORATION
STATEMENTS OF OPERATIONS

In thousands, except per share amounts	For the fiscal years ended June 30, 2014	2013	2012
Revenue:			
Grant revenue	$ 917	$ 439	$ 718
Sponsored research revenue	212	503	364
Total revenue	1,129	942	1,082
Operating expenses:			
Research and development	8,503	3,133	2,354
General and administrative	5,182	1,403	787
Total operating expenses	13,685	4,536	3,141
Loss from operations	(12,556)	(3,594)	(2,059)
Other income (expense):			
Interest income	42	10	—
Interest expense	—	(191)	(69)
Fair value adjustments to warrant liabilities	(441)	(8)	204
Fair value adjustments to Series B purchase rights	(2,904)	(1,207)	—
Other	(49)	—	—
Total other (expense) income, net	(3,352)	(1,396)	135
Net loss	$(15,908)	$(4,990)	$(1,924)
Net loss per share, basic and diluted	$ (4.46)	$(45.78)	$(17.65)
Weighted average shares outstanding, basic and diluted	3,568	109	109

The accompanying notes are an integral part of the financial statements.

APPLIED GENETIC TECHNOLOGIES CORPORATION
STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)

In thousands	Common Stock Outstanding Shares	Common Stock Amount	Additional Paid-in Capital	Accumulated Deficit	Total
Balance, June 30, 2011	109	$—	$ 12,122	$(41,512)	$(29,390)
Share-based compensation expense	—	—	24	—	24
Net loss	—	—	—	(1,924)	(1,924)
Balance, June 30, 2012	109	$—	$ 12,146	$(43,436)	$(31,290)
Beneficial conversion of notes payable to preferred stock	—	—	72	—	72
Share-based compensation expense	—	—	25	—	25
Net loss	—	—	—	(4,990)	(4,990)
Balance, June 30, 2013	109	$—	$ 12,243	$(48,426)	$(36,183)
Issuance of common stock, net of issuance costs	4,853	5	51,796		51,801
Reclassification of warrants to purchase stock to additional paid-in capital	—	—	551	—	551
Conversion of convertible preferred stock to common stock	9,120	9	73,778	—	73,787
Share-based compensation expense	—	—	825	—	825
Net loss	—	—	—	(15,908)	(15,908)
Balance, June 30, 2014	14,082	$ 14	$139,193	$(64,334)	$ 74,873

The accompanying notes are an integral part of the financial statements.

APPLIED GENETIC TECHNOLOGIES CORPORATION
STATEMENTS OF CASH FLOWS

In thousands	For the fiscal years ended June 30, 2014	2013	2012
Cash flows from operating activities			
Net loss	$(15,908)	$ (4,990)	$(1,924)
Adjustments to reconcile net loss to net cash used in operating activities:			
Share-based compensation expense	825	25	24
Depreciation and amortization	334	285	262
Non-cash interest expense	—	163	23
Fair value adjustments to warrant liabilities	441	8	(204)
Fair value adjustments to Series B purchase rights	2,904	1,207	—
Other	49	—	—
Changes in operating assets and liabilities:			
Decrease (increase) in grants receivable	(343)	41	294
Increase in prepaid and other current assets	(1,400)	(392)	(22)
(Decrease) increase in accounts payable	156	674	(24)
Increase (decrease) in deferred revenues	(212)	212	—
Increase (decrease) in accrued expenses	1,226	(10)	199
Net cash used in operating activities	(11,928)	(2,777)	(1,372)
Cash flows from investing activities			
Purchase of property and equipment	(158)	(352)	(8)
Purchase of and capitalized costs related to intangible assets	(218)	(179)	(100)
Maturity of short-term investments	29,500	50	—
Purchase of short-term investments	(79,950)	(14,000)	—
Net cash used in investing activities	(50,826)	(14,481)	(108)
Cash flows from financing activities			
Proceeds from exercise of convertible preferred stock warrants	1	—	—
Proceeds from exercise of common stock options	194	—	—
Proceeds from issuance of preferred stock and Series B purchase rights, net of issuance costs	10,683	25,727	—
Proceeds from issuance of common stock, net of issuance costs	51,607	—	—
Proceeds from issuance of convertible notes with detachable warrants	—	—	750
Proceeds from issuance of bank term note and warrants	—	507	—
Payment of bank term notes and capital lease	(1)	(857)	(323)
Net cash provided by financing activities	62,484	25,377	427
Net (decrease) increase in cash and cash equivalents	(270)	8,119	(1,053)
Cash and cash equivalents, beginning of period	8,893	774	1,827
Cash and cash equivalents, end of period	$ 8,623	$ 8,893	$ 774
Supplemental disclosure of cash flow information			
Cash paid for interest	$ —	$ 39	$ 38
Supplemental disclosure of non-cash financing activities			
Conversion of convertible preferred stock to common stock	$ 73,787	$ —	$ —
Conversion of Series B purchase rights to Series B-3 convertible preferred stock	$ 5,000	$ —	$ —
Conversion of preferred stock warrants to common stock warrants	$ 551	$ —	$ —
Conversion of notes payable and accrued interest to Series B-1 convertible preferred stock	$ —	$ 741	$ —
Conversion of Series B purchase rights to Series B-2 convertible preferred stock	$ —	$ 834	$ —
Capital lease of property and equipment	$ —	$ —	$ 7

The accompanying notes are an integral part of the financial statements.

APPLIED GENETIC TECHNOLOGIES CORPORATION
NOTES TO FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2014, 2013 AND 2012

(1) Organization and Operations:

Applied Genetic Technologies Corporation (the "Company" or "AGTC") was incorporated as a Florida corporation on January 19, 1999 and reincorporated as a Delaware corporation on October 24, 2003. The Company is a clinical-stage biotechnology company primarily developing gene therapy products designed to transform the lives of patients with severe inherited orphan diseases in ophthalmology. On April 1, 2014, AGTC completed its initial public offering ("IPO") and now trades on NASDAQ under the ticker symbol AGTC.

The Company has devoted substantially all of its efforts to research and development, including clinical trials. The Company has not completed the development of any products. The Company has generated revenue from collaboration agreements, sponsored research payments and grants, but has not generated product revenue to date and is subject to a number of risks similar to those of other early stage companies in the biotechnology industry, including dependence on key individuals, the difficulties inherent in the development of commercially viable products, the need to obtain additional capital necessary to fund the development of its products, development by the Company or its competitors of technological innovations, risks of failure of clinical studies, protection of proprietary technology, compliance with government regulations and ability to transition to large-scale production of products. As of June 30, 2014, the Company had an accumulated deficit of $64.3 million and expects to continue to incur losses for the foreseeable future. The Company has financed its operations to date primarily through sales of common stock, private placements of its convertible preferred stock, collaborations, bank debt, convertible debt financings, grant funding and cash receipts for sponsored research. At June 30, 2014, the Company had capital resources of $73.1 million consisting of cash, cash equivalents and short-term investments and believes that these resources will be sufficient to allow it to fund its current operating plan for at least the next 24 months.

(2) Summary of Significant Accounting Policies:

(a) **Basis of Presentation**—The accompanying financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP").

(b) **Segment Reporting—**The Company operates in only one segment. The chief operating decision-maker and management use cash flows as the primary measure to manage the business and do not segment the business for internal reporting or decision making.

(c) **Use of estimates** —The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reporting period. Actual results could differ from those estimates.

(d) **Cash and cash equivalents**—The Company considers all highly liquid investments with a maturity of 90 days or less at the time of purchase to be cash equivalents. Cash and cash equivalents include cash held in banks and money market accounts. Cash equivalents are carried at cost, which approximates fair value due to their short-term nature.

(e) **Short-term investments**—The Company considers all investments with a maturity of 91 to 360 days at the time of purchase to be short-term investments. Short-term investments, which include certificates of deposit maturing within 91 to 360 days of date of purchase, are carried at cost which approximates their fair value due to their short-term nature.

(f) **Inventory**—The Company expenses costs for clinical materials stored for master and working viral banks that remain at the sites in anticipation of their future use at that site. Since the Company can use

each of the raw materials in only a single product, each raw material is deemed to have no future economic value independent of the development status of that single drug.

(g) **Fair value of financial instruments**—The Company is required to disclose information on all assets and liabilities reported at fair value that enables an assessment of the inputs used in determining the reported fair values. The Financial Accounting Standards Board ("FASB") Accounting Standard Codification ("ASC") Topic 820, *Fair Value Measurements and Disclosures* ("ASC 820"), establishes a hierarchy of inputs used when available. Observable inputs are inputs that market participants would use in pricing the asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the inputs that market participants would use in pricing the asset or liability, and are developed based on the best information available in the circumstances. The fair value hierarchy applies only to the valuation inputs used in determining the reported fair value of financial instruments and is not a measure of the investment credit quality. The three levels of the fair value hierarchy are described below:

Level 1—Valuations based on unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date.

Level 2—Valuations based on quoted prices for similar assets or liabilities in markets that are not active or for which all significant inputs are observable, either directly or indirectly.

Level 3—Valuations that require inputs that reflect the Company's own assumptions that are both significant to the fair value measurement and observable.

To the extent that valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized in Level 3. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

Items measured at fair value on a recurring basis include short-term investments, Series B purchase rights and warrant liabilities (See Note 6).

(h) **Property and equipment**—Property and equipment are recorded at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, which are generally three to seven years. The Company periodically enters into service contracts with independent third parties for the maintenance on some of its major laboratory equipment. The maintenance contracts are generally prepaid and the Company recognizes the expense over the terms of such contracts, usually twelve months or less.

(i) **Intangible assets**—Intangible assets include licenses and patents. The Company obtains licenses from third parties and capitalizes the costs related to exclusive licenses that have alternative future use in multiple potential programs. The Company also capitalizes costs related to filing, issuance, and prosecution of patents. The Company reviews its capitalized costs periodically to determine that costs recorded include costs for patent applications that have future value. The Company evaluates costs related to patents that it is not actively pursuing and writes off any of these costs. Amortization expense is computed using the straight-line method over the estimated useful lives of the assets, which are generally eight to twenty years. The Company amortizes in-licensed patents and patent applications from the date of the applicable license and internally developed patents and patent applications from the date of the initial application. Licenses and patents converted to research use only are expensed immediately.

(j) **Impairment of long-lived assets**—The Company reviews its long-lived assets for impairment when impairment indicators are present. If impairment indicators exist, management determines whether impairment in value has occurred by comparing the estimated undiscounted cash flows from future operations with the carrying values of the assets. Management considers several indicators in assessing impairment, including trends and prospects, as well as the effects of obsolescence, demand, competition and other economic factors. For the fiscal years ended June 30, 2014, 2013, and 2012, the Company did not identify any indicators of impairment for its long-lived assets. The Company has not yet generated positive cash flows, and such cash flows may not materialize for a significant period in the future. As a result, it is reasonably possible that future evaluations of long-lived assets may result in a conclusion that such assets have been impaired.

(k) **Warrants to purchase convertible preferred stock**—In conjunction with various financing transactions, the Company issued warrants to purchase shares of its Series A-1, Series A-1A and Series B-1 preferred stock. Prior to the consummation of the Company's IPO, the Company's Series A-1, Series A-1A and Series B-1 preferred stock were subject to redemption under circumstances outside of the Company's control. Therefore, for periods prior to the consummation of the IPO, the associated shares are presented as temporary equity. Consequently, for those periods, the warrants to purchase shares of Series A-1, Series A-1A and Series B-1 preferred stock were accounted for as liabilities and adjusted to fair value at the end of each reporting period. The fair value of the warrants classified as liabilities was estimated using the Black-Scholes option pricing model. The estimates in the Black-Scholes option pricing model were based, in part, on subjective assumptions, including stock price volatility, term of the warrants, risk free interest rate, dividend yield, and fair value of the preferred stock underlying the warrants. The gain or loss associated with the change in the fair value of the preferred stock warrant liability from the prior period is recognized as a component of other (expense) income, net.

(l) **Revenue recognition—**The Company has primarily generated revenue through collaboration agreements, sponsored research arrangements with nonprofit organizations for the development and commercialization of product candidates and revenues from federal research and development grant programs. The Company recognizes revenue when amounts are realized or realizable and earned. Revenue is considered realizable and earned when the following criteria are met: (1) persuasive evidence of an arrangement exists; (2) delivery has occurred or services have been rendered; (3) the price is fixed or determinable; and (4) collection of the amounts due are reasonably assured.

Amounts received prior to satisfying the revenue recognition criteria are recorded as deferred revenue in the Company's balance sheets. Amounts expected to be recognized as revenue within the 12 months following the balance sheet date are classified as current liabilities. The Company recognizes revenue for reimbursements of research and development costs under collaboration agreements as the services are performed. The Company records these reimbursements as revenue and not as a reduction of research and development expenses, as the Company has the risks and rewards as the principal in the research and development activities.

The Company evaluates the terms of sponsored research agreement grants and federal grants to assess the Company's obligations and if the Company's obligations are satisfied by the passage of time, revenue is recognized on a straight-line basis. In situations where the performance of the Company's obligations has been satisfied when the grant is received, revenue is recognized upon receipt of the grant. Certain grants contain refund provisions. The Company reviews those refund provisions to determine the likelihood of repayment. If the likelihood of repayment of the grant is determined to be

remote, the grant is recognized as revenue. If the probability of repayment is determined to be more than remote, the Company records the grant as a deferred revenue liability, until such time that the grant requirements have been satisfied.

(m) **Income taxes**—The Company uses the asset and liability method for accounting for income taxes. Under this method, deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective income tax bases. Deferred tax assets and liabilities are measured using enacted rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled.

As required by U.S. GAAP, the Company recognizes the financial statement benefit of a tax position only after determining that the relevant tax authority would more likely than not sustain the position following an audit. For tax positions meeting the more-likely-than-not threshold, the amount recognized in the financial statements is the largest benefit that has a greater than 50 percent likelihood of being realized upon ultimate settlement with the relevant tax authority. The Company files income tax returns in the U.S. federal jurisdiction and the state of Florida. As of June 30, 2014 and 2013, the Company did not have any significant uncertain tax positions.

(n) **Research and development—**Research and development costs include costs incurred in identifying, developing and testing product candidates. Costs consist primarily of payroll expenses for research related employees, laboratory costs, animal and laboratory maintenance and supplies, rent, utilities, clinical and pre-clinical expenses, as well as payments for sponsored research, scientific and regulatory consulting fees and testing. Costs are charged to expense as incurred. Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors and our clinical sites. When outside contracts for research products or testing require advance payments, these payments are recorded on the balance sheet as a prepaid expense and subsequently recognized as an operating expense when the service is provided or when a specific milestone outlined in the contract is reached. Advance payments related to research and development were $1.4 million and $444 thousand at June 30, 2014 and 2013, respectively, and are included in other current assets on the balance sheets.

(o) **Share-based compensation**—The Company measures the cost of employee services received in exchange for an award of equity instruments based on the grant date fair value of the award. That cost is recognized on a straight-line basis over the period during which the employee is required to provide service in exchange for the award. The fair value of options on the date of grant is calculated using the Black-Scholes option pricing model based on key assumptions such as stock price (prior to April 2014 IPO), expected volatility and expected term. The Company's estimates of these assumptions are primarily based on third-party valuations historical data, peer company data and judgment regarding future trends and factors. The Company accounts for stock options issued to non-employees in accordance with the provisions of ASC Subtopic 505-50, *Equity-Based Payments to Non-employees*, which requires valuing the stock options and measuring such stock options to their current fair value when they vest. Refer to Note 5 for details regarding the Company's share-based compensation plans.

(p) **Net loss per share**—Basic net loss per share is calculated by dividing net loss by the weighted average shares outstanding during the period, without consideration for common stock equivalents. Diluted net loss per share is calculated by adjusting weighted average shares outstanding for the dilutive effect of common stock equivalents outstanding for the period, determined using the treasury-stock method. For purposes of the diluted net loss per share calculation, preferred stock, stock options, and warrants are

considered to be common stock equivalents but have been excluded from the calculation of diluted net loss per share, as their effect would be anti-dilutive for all periods presented. Therefore, basic and diluted net loss per share was the same for all periods presented.

(q) **Comprehensive loss**—Comprehensive loss consists of net loss and changes in equity during a period from transactions and other equity and circumstances generated from non-owner sources. The Company's net loss equals comprehensive loss for all periods presented.

(r) **New Accounting Pronouncements**—In May 2014, the FASB issued guidance that requires companies to recognize revenue to depict the transfer of goods or services to customers in amounts that reflect the consideration to which the company expects to be entitled in exchange for those goods or services. It also requires enhanced disclosures about revenue, provides guidance for transactions that were not previously addressed comprehensively, and improves guidance for multiple-element arrangements. The guidance applies to any entity that either enters into contracts with customers to transfer goods or services or enters into contracts for the transfer of nonfinancial assets unless those contracts are within the scope of other standards. The guidance is effective for public companies for annual periods beginning after December 15, 2016 as well as interim periods within those annual period using either the full retrospective approach or modified retrospective approach. Early adoption is not permitted. The Company is currently evaluating the impacts of the new guidance on its financial statements.

In July 2013, the FASB issued amended guidance on the financial statement presentation of an unrecognized tax benefit when a net operating loss carryforward, similar tax loss, or tax credit carryforward exists. The guidance requires an unrecognized tax benefit, or a portion of an unrecognized tax benefit, to be presented as a reduction of a deferred tax asset when a net operating loss carryforward, similar tax loss, or tax credit carryforward exists, with certain exceptions. This accounting guidance was effective for annual and interim periods beginning after December 15, 2013. The Company adopted this new guidance beginning with its interim financial statements for the three months ended March 31, 2014. The adoption of this standard did not have a material impact on the Company's financial statements.

(3) Property and Equipment, Net:

Property and equipment consists of the following:

	At June 30,	
In thousands	**2014**	2013
Laboratory equipment	$1,085	$ 945
Office equipment	92	79
Leasehold improvements	8	8
Software	41	32
Property and equipment, gross	1,226	1,064
Less: Accumulated depreciation and amortization	(824)	(723)
Property and equipment, net	$ 402	$ 341

Depreciation and amortization expense was $101 thousand, $64 thousand and $54 thousand for the fiscal years ended June 30, 2014, 2013 and 2012, respectively. Depreciation and amortization expense of $14 thousand, $14 thousand and $10 thousand was included in general and administrative expenses for the years ended June 30, 2014, 2013 and 2012, respectively. Depreciation and amortization expense of $87 thousand,

$50 thousand and $44 thousand was included in research and development expenses for each of the fiscal years ended June 30, 2014, 2013 and 2012, respectively.

(4) Intangible Assets, Net:

Intangible assets subject to amortization consist of the following:

	At June 30, 2014		
In thousands	Cost	Accumulated Amortization	Net of Accumulated Amortization
Licenses	$1,143	$ 751	$ 392
Patents	1,892	719	1,173
Intangible assets, net	$3,035	$1,470	$1,565

	At June 30, 2013		
In thousands	Cost	Accumulated Amortization	Net of Accumulated Amortization
Licenses	$1,080	$ 672	$ 408
Patents	1,791	569	1,222
Intangible assets, net	$2,871	$1,241	$1,630

Amortization expense related to intangible assets for the years ended June 30, 2014, 2013 and 2012 was $233 thousand, $221 thousand and $208 thousand, respectively. All amortization expense related to intangible assets is included in research and development expenses on the statements of operations.

Estimated amortization expense for the next five years and thereafter is as follows:

Fiscal Year Ending June 30,	Amount
2015	$ 234
2016	222
2017	219
2018	210
2019	169
Thereafter	511
	$1,565

(5) Share-based Compensation Plans:

The Company primarily uses stock options to provide long-term incentives for its employees, non-employee directors and certain consultants. Effective upon the closing of the Company's sale of shares of Series B-3 preferred stock on November 5, 2013, the Company's stockholders approved an amendment to the 2011 Stock Incentive Plan to increase the total number of shares available for issue under the plan to 909,000. With the approval of the 2013 Equity and Incentive Plan as discussed below, no new awards will be granted under the Company's 2011 Stock Incentive Plan in the future.

Upon the effectiveness on March 26, 2014 of the Company's registration statement on Form S-1 relating to its IPO, the Company's stockholders approved the 2013 Equity and Incentive Plan. As of June 30, 2014, the total number of shares available for issue under the 2013 Equity and Incentive plan was 1,151,428. As of June 30, 2014, awards for 839,465 shares of common stock are available for issuance pursuant to awards under the Plan.

The Board of Directors has the authority to select the individuals to whom options are granted and determine the terms of each option, including (i) the number of shares of common stock subject to the option; (ii) the date on which the option becomes exercisable; (iii) the option exercise price, which, in the case of incentive stock options, must be at least 100% (110% in the case of incentive stock options granted to a stockholder owning in excess of 10% of the Company's stock) of the fair market value of the common stock as of the date of grant; and (iv) the duration of the option (which, in the case of incentive stock options, may not exceed ten years). Options typically vest over a three- or four-year period.

A summary of the stock option activity is as follows:

	For the years ended June 30,					
	2014		2013		2012	
(In thousands, except per share amounts)	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
Outstanding, beginning of year	380	$1.45	133	$3.50	133	$ 3.78
Granted	715	8.45	247	0.35	5	3.50
Exercised	(61)	3.24	—	—	—	—
Terminated	(10)	3.50	—	—	(5)	11.64
Outstanding, end of year	1,024	$6.21	380	$1.45	133	$ 3.50
Exercisable, end of year	200		153		116	
Weighted average fair value of options granted during the year	$ 6.18		$0.21		$1.75	

The following table summarizes information about stock options outstanding:

	At June 30,			
	2014		2013	
(Number of options in thousands; remaining lives in years) Exercise Price	Number of Options	Weighted Average Contractual Life Remaining	Number of Options	Weighted Average Contractual Life Remaining
$ 0.35	242	8.53	247	9.53
$ 3.50	67	4.74	133	4.49
$ 4.90	403	9.23	—	—
$12.00	157	9.74	—	—
$14.08	155	9.80	—	—
	1,024		380	

The following table summarizes information about stock options exercisable:

	At June 30,	
	2014	2013
Exercise Price	Number of Options (in thousands)	
$ 0.35	83	71
$ 3.50	64	82
$ 4.90	47	—
$12.00	—	—
$14.08	6	—
	200	153

As of June 30, 2014, the aggregate intrinsic value of all outstanding stock options was $17.3 million and for exercisable stock options was $4.0 million. The intrinsic value per option at June 30, 2014 is calculated as the difference between the exercise price of the underlying option and the closing price of the Company's common stock of $23.10 on that date. The total fair value of options that vested during the fiscal years ended June 30, 2014, 2013, and 2012 was $280 thousand, $43 thousand, and $37 thousand, respectively.

Unrecognized compensation expense related to non-vested employee stock options amounted to $3.4 million as of June 30, 2014. Such compensation expense is expected to be recognized over a weighted-average period of 3.2 years.

In accounting for stock options to non-employees, the value of goods and services related to the options granted are recognized as the awards vest, which is generally consistent with receipt of services. Therefore, vested portions vary based upon services and terms of each option. The Company revalues non-vested, non-employee options each reporting period using the estimated fair value of the Company's common stock as of the last day of each reporting period.

Share-based expense related to stock options awarded to employees, non-employee directors and consultants amounted to $825 thousand, $25 thousand and $24 thousand for the fiscal years ended June 30, 2014, 2013 and 2012, respectively. The expense was allocated as follows:

	For the fiscal years ended June 30,		
(In thousands)	2014	2013	2012
Research and development	$ 77	$11	$ 9
General and administrative	748	14	15
	$825	$25	$24

The fair value of each option granted is estimated on the grant date using the Black-Scholes stock option pricing model. The following assumptions were made in estimating fair value:

	Fiscal Years Ended June 30,		
Assumption	2014	2013	2012
Dividend yield	0.00%	0.00%	0.00%
Expected term	6.00 to 10.00 years	6.25 to 10.00 years	6.25 years
Risk-free interest rate	2.04% to 2.31%	1.37% to 1.40%	1.39%
Expected volatility	85.00%	63.23%	65.02%

The dividend yield is based upon the assumption that the Company will not declare a dividend over the life of the options. Since adopting ASC 718, the Company has been unable to use historical employee exercise and option expiration data to estimate the expected term assumption for the Black-Scholes grant-date valuation. The Company therefore has utilized the "simplified" method, as prescribed by the SEC's Staff Accounting Bulletin No. 107, *Share-Based Payment*, to estimate on a formula basis the expected term of our stock options considered to have "plain vanilla" characteristics. The risk-free interest rate is based on the U.S. Treasury yield curve on the date of the grant. As a new public company, the Company does not have sufficient history to estimate the volatility of its common stock price or the expected life of the options. The Company calculates expected volatility based on reported data for similar publicly traded companies for which historical information is available and will continue to do so until the historical volatility of its common stock is sufficient to measure expected volatility for future option grants. The group of similar publicly traded companies was determined based upon companies considered to be direct competition or having been presented by independent parties as a "comparable" company based upon market sector. In determining this group, the Company has excluded "large-cap" entities. Forfeitures are estimated at the time of the grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Share-based compensation expense recognized in the statements of operations for the fiscal years ended June 30, 2014, 2013 and 2012 does not record tax related effects on stock-based compensation given the Company's historical and anticipated operating losses and offsetting changes in its valuation allowance that fully reserves against potential deferred tax assets.

The fair value of the shares of common stock that underlie the stock options the Company has granted has historically been determined by the Company's board of directors based upon information available to it at the time of grant. The Company's board of directors considered numerous objective and subjective factors in the assessment of fair value, including reviews of the Company's business and financial condition, the conditions of the industry in which the Company operates and the markets that the Company serves and general economic, market and United States and global capital market conditions, the lack of marketability of its common stock, the likelihood of achieving a liquidity event for the shares of common stock underlying these stock options, the preferences and privileges of the preferred stock over the rights of the common stock, the status of the clinical trials and preclinical studies relating to its product candidates and third-party valuations of its common stock. The Company's board has generally considered the most persuasive evidence of fair value to be the prices at which the Company's securities were sold in actual arms' length transactions. Following its IPO, the Company's shares of common stock are now traded on the Nasdaq Global Select Market and it is no longer required to estimate the fair value of common stock underlying new equity awards.

(6) Fair Value of Financial Instruments and Investments:

The following fair value hierarchy table presents information about each major category of the Company's financial assets and liabilities measured at fair value on a recurring basis:

Description	Total	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Assets:				
June 30, 2014				
Short-term investments	$64,450	$—	$64,450	$ —
June 30, 2013				
Short-term investments	$14,000	$—	$14,000	$ —
Liabilities:				
June 30, 2013				
Series B purchase rights	$ 2,096	$—	$ —	$2,096
Warrant liabilities	110	—	—	110
Total	$ 2,206	$—	$ —	$2,206

Short-term investments

Short-term investments consist of certificates of deposit placed through an account registry service, with maturities up to one year, for which the fair market value is measured based on level 2 inputs (quoted prices for identical assets in markets that are not active).

Warrant liabilities

As of June 30, 2013, we had warrants outstanding to purchase shares of our Series A-1, Series A-1A and Series B-1 preferred stock. Because our Series A-1, Series A-1A and Series B-1 preferred stock were subject to redemption under circumstances outside of our control, the outstanding shares of these series of preferred stock are presented as temporary equity for those periods. Consequently, the warrants to purchase shares of Series A-1, Series A-1A and Series B-1 preferred stock were accounted for as liabilities and adjusted to fair value at the end of each reporting period. The fair value of the warrants classified as liabilities was estimated using the Black-Scholes option pricing model. The estimates in the Black-Scholes option pricing model were based, in part, on subjective assumptions, including stock price volatility, term of the warrants, risk free interest rate, dividend yield, and fair value of the preferred stock underlying the warrants. The gain or loss associated with the change in the fair value of the preferred stock warrant liability from the prior period was recognized as a component of other (expense) income, net. The fair value of the warrants on the date of issuance, and on each financial reporting date for those warrants classified as liabilities, was estimated using the Black-Scholes option pricing model.

The significant assumptions used in preparing the option pricing model for valuing the Company's warrants include:

	For the years ended June 30,		
Assumption	**2014**	**2013**	**2012**
Exercise price	$0.13 to $0.97	$0.13 to $0.97	$0.13 to $0.97
Fair value of preferred shares	$0.23 to $0.90	$0.15	$0.13
Expected life (in years)	0.12 to 5.67	0.26 to 7.00	1.26 to 7.17
Risk-free interest rate	0.01% to 1.75%	0.07% to 1.69%	0.27% to 1.39%
Expected volatility	70.00% to 85.00%	63.23%	65.02%

Upon the closing of our initial public offering, these warrants were converted into warrants exercisable for common stock.

Series B purchase rights

In November 2012, we entered into a Series B-1, B-2 and B-3 Preferred Stock Purchase Agreement, or Series B Purchase Agreement, which authorized the sale of up to 290,781,972 shares of convertible preferred stock in three separate tranches of Series B-1, Series B-2 and Series B-3 preferred stock, respectively. Simultaneously with the execution of the Series B Purchase Agreement, we issued and sold an aggregate of 66,147,709 shares of Series B-1 preferred stock at a price per share of $0.1297. The Series B Purchase Agreement provided that the holders of the Series B-1 shares, or Series B holders, were also entitled to purchase up to an aggregate of 140,542,178 shares of Series B-2 preferred stock for an aggregate purchase price equal to $18.2 million, or second tranche, and up to an aggregate of 82,670,167 shares of Series B-3 preferred stock for an aggregate purchase price equal to $10.7 million, or third tranche. The price per share and number of shares to be issued in exchange for such amount was to be determined separately for each tranche by reference to which, if any, of three milestones specified in the agreement had been satisfied by us.

The purchase rights were legally separable and exercisable apart from the Series B-1 shares and, because representatives of the Series B holders hold a majority of the seats on the board of directors, the decision to complete the second and third tranche was deemed to be outside our control. We therefore recorded, at the time of entry into the Series B Purchase Agreement, a Series B purchase rights liability of $1.7 million for the fair value of our obligation to sell the Series B-2 and Series B-3 preferred stock in the second and third tranche. The Series B purchase rights liability was valued separately for each series using the Black-Scholes option-pricing method to assign a value to the purchase right relating to that series under each of the possible applicable valuation scenarios, depending on which milestones were met, with each scenario being assigned an estimated probability as of the valuation date. The aggregate of these probability-weighted valuations was assigned as the value of the purchase right for each tranche. The initial fair value of the Series B purchase rights liability was estimated to be $0.6 million for the second tranche and $1.1 million for the third tranche. The total value allocated to the Series B purchase rights reduced the amount allocated to the carrying value of the Series B-1 preferred stock on our balance sheet.

The most significant and judgmental inputs driving the fair value of our Series B purchase rights are the assumptions regarding the fair value of the underlying preferred shares and the volatility factor. With all other inputs constant, an increase or decrease in the assumed fair value of the preferred shares would result in a higher or lower estimate of the fair value of the Series B purchase rights, respectively, although there

would not be a direct correlation. Similarly, an increase or decrease in the assumed volatility factor would result in a higher or lower estimate of the fair value of the Series B purchase rights, respectively.

In April 2013, following the satisfaction by us of the first milestone, the Series B holders exercised their rights with respect to the second tranche and purchased an aggregate of 122,749,639 shares of Series B-2 preferred stock at a price per share of $0.1485, for gross cash proceeds of $18.2 million. During fiscal year 2013, we recorded a change in value of the Series B purchase rights liability of $1.2 million to other expense and the $0.8 million balance of the value allocated to the Series B-2 purchase rights liability immediately prior to the closing of the second tranche was recorded as proceeds from the issuance of the Series B-2 preferred stock.

In October 2013, the Series B holders exercised their rights with respect to the third tranche and on November 5, 2013, we sold to the Series B holders an aggregate of 58,816,897 shares of our Series B-3 preferred stock at a price per share of $0.1823 (or $6.38 on an as-converted to common stock basis), for gross cash proceeds of $10.7 million. In connection with the closing of the third tranche, we and the Series B holders amended the terms of the Series B purchase agreement to provide that if the two remaining milestones specified in the Series B Purchase Agreement are not satisfied by September 2014, the Series B holders who continue to hold shares of Series B-3 preferred stock will be entitled to receive an aggregate of approximately 13,387,000 additional shares of Series B-3 preferred stock. This right was extinguished upon the conversion to common stock of all outstanding shares of our preferred stock upon the closing of our initial public offering.

During the year ended June 30, 2014, we recorded a change in value of the Series B purchase right liability of $2.9 million to other expense, and $5.0 million allocated to the Series B-3 purchase right immediately prior to the closing of the third tranche was reallocated to the carrying value of the Series B-3 preferred stock.

The significant assumptions used as inputs in the Black-Scholes valuation were as follows:

	For the years ended June 30,	
Assumption	**2014**	**2013**
Exercise price	$0.15 to $0.18	$0.15 to $0.18
Years to maturity	0.00 to 1.00	0.08 to 1.87
Risk-free interest rate	0.06% to 0.10%	0.04% to 0.25%
Expected volatility	55.00% to 85.00%	55.00% to 60.00%

The Company reports the change in fair value during each period as a non-operating gain or loss recorded as a component of other (expense) income, net in the statement of operations. The table presented below is a summary of changes in the fair value of the Company's Level 3 valuation for warrant liabilities and Series B purchase rights for the fiscal years ended June 30, 2014, 2013 and 2012:

	Warrant liabilities	Series B purchase rights
Beginning balance as of July 1, 2011	$ 205	$ —
Fair value of warrants issued	79	—
Change in fair value during the period	(204)	—
Ending balance as of June 30, 2012	80	—
Fair value of warrants issued	22	—
Fair value of Series B purchase rights issued	—	1,723
Change in fair value during the period	8	1,207
Series B purchase rights converted to Series B-2 convertible preferred stock	—	(834)
Ending balance as of June 30, 2013	110	2,096
Change in fair value during the period	441	2,904
Preferred Stock Warrants converted to Warrants for Common Stock	(551)	—
Series B purchase rights converted to Series B-3 convertible preferred stock	—	(5,000)
Ending balance as of June 30, 2014	$ —	$ —

(7) Commitments and Contingencies:

Operating leases—The Company leases office equipment, office space, and lab space under operating leases expiring through December 2014. For the fiscal years ended June 30, 2014, 2013 and 2012, rent expense under these and other operating leases was $123 thousand, $102 thousand and $82 thousand, respectively. Minimum future lease payments (in thousands) under non-cancelable operating leases as of June 30, 2014 in the aggregate are:

Fiscal Year Ending June 30,	Amount
2015	$72
Total minimum future lease payments	$72

Other contingencies—Under various agreements, the Company will be required to pay royalties and milestone payments upon the successful development and commercialization of products. The Company has entered into funding agreements with various not-for-profit organizations. The Company may become obligated to pay royalties on net product sales of any collaboration product that it successfully develops and subsequently commercializes or, if it out-licenses rights to a collaboration product, a specified percentage of certain payments it receives from its licensee. The Company is not obligated to make such payments unless and until annual sales of a collaboration product exceed a designated threshold. The Company's obligation to make such payments would end upon its payment of a specified amount.

The Company is also party to various agreements entered into in the ordinary course of its business, principally relating to licensed technology, that require future payments relating to milestones or royalties on future sales of specified products. At June 30, 2014, the Company had nine license agreements with six different entities, including five with the University of Florida Research Foundation. Several of these entities are stockholders of the Company. The Company is required to pay minimum annual royalty and license maintenance for all licenses until such time when the license is terminated by either expiration of underlying patents or voluntary termination by either party per the agreement. Once a product reaches commercialization, the above-mentioned minimum annual payments will be replaced by annual royalties ranging from 0.5% to 4.0% on net sales. The Company is responsible for all costs related to preparation, filing, issuance, prosecution and maintenance of the underlying patents covered in the license agreements. As of June 30, 2014, the Company held one license where certain milestones requiring additional royalty payments had been met. The Company may terminate its license agreements with zero to ninety days written notice depending upon the terms of each specific agreement. The Company paid annual royalty and license maintenance payments of $87 thousand, $61 thousand and $41 thousand for each of the fiscal years ended June 30, 2014, 2013 and 2012, respectively. All royalty and license maintenance payments are included within research and development expenses in the statement of operations.

Minimum annual royalty and license maintenance payments (in thousands) under these agreements are as follows:

Fiscal Year Ending June 30,	Amount
2015	$ 89
2016	$151
2017	$152
2018 and every fiscal year thereafter	$156

The Company enters into standard indemnification agreements in the ordinary course of business. Pursuant to the agreements, the Company indemnifies, holds harmless, and agrees to reimburse the indemnified party for losses suffered or incurred by the indemnified party, generally the Company's business partners or customers, in connection with any U.S. patent or any copyright or other intellectual property infringement claim by any third party with respect to the Company's products. The term of these indemnification agreements is generally perpetual. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited. The Company has never incurred costs to defend lawsuits or settle claims related to these indemnification agreements. From time to time, the Company is involved in various claims and legal actions that arise in the normal course of business. Management believes that the outcome of such legal actions will not have a significant adverse effect on the Company's financial position, results of operations or cash flows.

(8) Concentrations:

The Company has demand deposits and money market funds in a regional bank that are insured by the FDIC up to FDIC limits. In addition, the Company has short-term investments in certificates of deposits at various financial institutions that are 100% FDIC insured.

All of the Company's grant receivables at June 30, 2014 and 2013 are derived from or associated with government and sponsored research grants. Any future changes in the availability of grants for such research would have a significant impact on the Company's operations.

(9) Income Taxes:

For the fiscal years ended June 30, 2014, 2013 and 2012, the Company did not record a current or deferred income tax expense or benefit.

Deferred taxes are recognized for temporary differences between the basis of assets and liabilities for financial statement and income tax purposes. The significant components of the Company's deferred tax assets (liabilities) are comprised of the following:

	At June 30,	
In thousands	2014	2013
Deferred tax assets:		
Net operating loss carryforwards	$ 22,661	$ 18,041
Research and development credit carryforwards	1,262	888
Accruals and other	238	111
Gross deferred tax assets	24,161	19,040
Deferred tax asset valuation allowance	(24,086)	(18,956)
Total deferred tax assets, net of valuation allowance	75	84
Deferred tax liabilities:		
Depreciation and amortization	(75)	(84)
Total deferred tax liabilities	(75)	(84)
Net deferred tax asset (liability)	$ —	$ —

At June 30, 2014, the Company has net operating losses of approximately $58.7 million that may be applied against future taxable income and expire in various years from 2022 to 2034. At June 30, 2014, the Company also has research and development tax credits of approximately $1.3 million that may provide future tax benefits and expire from 2027 to 2043.

The Company has evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets. Based on the Company's history of operating losses, the Company has concluded that it is more likely than not that the benefit of its deferred tax assets will not be realized. Therefore, any tax benefits to be realized in future years as a result of the utilization of the Company's net operating loss carry forwards as of June 30, 2014, computed based on statutory federal and state rates, are completely offset by valuation allowances established because realization of the deferred tax benefits are not considered more likely than not. The valuation allowance increased by approximately $5.1 million during the fiscal year ended June 30, 2014, due primarily to net operating losses generated during the period.

A reconciliation of income tax expense computed at the statutory federal income tax rate to income taxes as reflected in the financial statements is as follows:

	For the years ended June 30,		
	2014	2013	2012
Federal income tax benefit at statutory rate	(34)%	(34)%	(34)%
State income tax, net of federal benefit	(4)%	(4)%	(4)%
Permanent differences	9 %	11 %	(3)%
Research and development credit	(2)%	(3)%	(7)%
Other	1 %	2 %	3 %
Change in valuation allowance	30 %	28 %	45 %
Effective income tax rate	0 %	0 %	0 %

Under the provisions of the Internal Revenue Code, the Company's net operating loss and tax credit carry forwards are subject to review and possible adjustment by the Internal Revenue Service and state tax authorities. Net operating loss and tax credit carry forwards may become subject to an annual limitation in the event of certain cumulative changes in the ownership interest of significant shareholders over a three-year period in excess of 50 percent, as defined under Sections 382 and 383 of the Internal Revenue Code, respectively, as well as similar state provisions. This could limit the amount of tax attributes that can be utilized annually to offset future taxable income or tax liabilities. The amount of the annual limitation is determined based on the value of the Company immediately prior to the ownership change. Subsequent ownership changes may further affect the limitation in future years. The Company has completed several financings since its inception which may have resulted in a change in control as defined by Sections 382 and 383 of the Internal Revenue Code, or could result in a change in control in the future.

For fiscal years through June 30, 2014, the Company generated research credits but has not conducted a study to document the qualified activities. This study may result in an adjustment to the Company's research and development credit carry forwards; however, until a study is completed and any adjustment is known, no amounts are being presented as an uncertain tax position at June 30, 2014 and 2013. A full valuation allowance has been provided against the Company's research and development credits and, if an adjustment is required, this adjustment would be offset by an adjustment to the deferred tax asset established for the research and development credit carry forwards and the valuation allowance.

The Company files income tax returns in the United States and in the state of Florida. The federal and state returns are generally subject to tax examinations for the tax years ended June 30, 2010 through June 30, 2014. To the extent the Company has tax attribute carry forwards, the tax years in which the attribute was generated may still be adjusted upon examination by the Internal Revenue Service, or state authorities, to the extent such attributes are utilized in a future period.

The Company's policy is to recognize interest and penalties related to uncertain tax positions in income tax expense. As of June 30, 2014 and 2013, the Company had no accrued interest or penalties related to uncertain tax positions and no amounts have been recognized in the Company's statements of operations for any of the fiscal years ended June 30, 2014, 2013 and 2012.

(10) Convertible Preferred Stock and Stockholders' Equity (Deficit):

On April 1, 2014, the Company completed its IPO in which it sold 4,166,667 shares of common stock at a price of $12.00 per share. The shares began trading on the Nasdaq Global Select Market on March 27, 2014. An additional 625,000 shares were sold pursuant to the exercise of the underwriters' over-allotment option, also at the offering price of $12.00 per share. The aggregate net proceeds received by the Company from the offering, including exercise of the over-allotment option, amounted to $51.6 million, net of underwriting discounts and commissions and other issuance costs incurred by the Company. Upon the closing of the IPO, all outstanding shares of convertible preferred stock converted into 9,120,081 shares of common stock; and warrants exercisable for convertible preferred stock were automatically converted into warrants exercisable for 49,811 shares of common stock, resulting in the reclassification of the related convertible preferred stock warrant liability of $551 thousand to additional paid-in capital.

Convertible Preferred Stock

The Company's convertible preferred stock at June 30, 2013 is summarized below:

	At June 30, 2013		
In thousands	Shares Authorized	Shares Issued and Outstanding	Carrying Value
Series A-1	29,737	22,466	$21,526
Series A-1A	11,572	11,479	10,998
Series B-1	67,570	66,147	6,539
Series B-2	140,542	122,750	19,040
Series B-3	82,670	—	—
Total	332,091	222,842	$58,103

In November 2013, the Company issued and sold an additional 58,816,897 aggregate shares of Series B-3 preferred stock at a price per share of $0.1823. See Note 6 for further discussion of this transaction.

In connection with the consummation of the Company's IPO, on April 1, 2014, all of the above-mentioned outstanding shares of the Company's convertible preferred stock converted into 9,120,081 shares of its common stock. As a result, none of these convertible series of preferred stock were issued nor outstanding at June 30, 2014. The Company also amended and restated its Certificate of Incorporation to decrease the number of shares of preferred stock authorized to be issued to 5,000,000 shares of $0.001 par value preferred stock, of which none were outstanding as of June 30, 2014.

Common Stock

As of June 30, 2012, the Company's common stock consisted of 45,102,000 authorized shares. In November 2012, the Company amended and restated its Certificate of Incorporation to increase the number of shares common stock authorized to be issued to 410,000,000 shares of $0.001 par value common stock.

On March 4, 2014, the Company effected a 1-for-35 reverse stock split of its common stock, whereby each share of common stock, $0.001 par value, outstanding immediately prior to that date was combined, reclassified and changed into one thirty-fifth (1/35) of a fully paid and non-assessable share of common stock. All common share and common per share information in the accompanying financial statements has

been retroactively adjusted to reflect the reverse stock split and adjustment of the preferred stock conversion ratios for all periods presented. In connection with the Company's IPO, on April 1, 2014, the Company amended and restated its Certificate of Incorporation to decrease the number of shares of common stock authorized to be issued to 150,000,000 shares of $0.001 par value common stock.

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

In thousands	June 30, 2014
Common stock warrants	50
Stock options issued and outstanding	1,024
Authorized for future grant under the 2013 Equity and Incentive Plan	839
	1,913

(11) Accrued Expenses:

Accrued expenses consist of the following:

	At June 30,	
In thousands	2014	2013
Research and development-related	$1,008	$ 61
Compensation-related	575	298
Other	2	1
	$1,585	$360

(12) Defined Contribution Plan:

The Company sponsors a 401(k) Plan (the "Plan") that covers substantially all of its employees and is administered through its staff leasing company. Under the Plan, employees may elect to defer up to 25% of their compensation and the Company matches a portion of such employee contributions up to a maximum of 4%. Total employer contributions to the Plan for the fiscal years ended June 30, 2014, 2013 and 2012 were approximately $60 thousand, $40 thousand and $34 thousand, respectively.

(13) Quarterly Financial Information (Unaudited):

Summarized quarterly information for the two fiscal years ended June 30, 2014 and 2013, respectively, is as follows:

	Fiscal Year 2014 by Quarter:			
In thousands, except per share data	First	Second	Third	Fourth
Revenue	$ 258	$ 515	$ 232	$ 124
Loss from operations	$(1,966)	$(2,905)	$(3,260)	$(4,425)
Net loss	$(7,064)	$ (735)	$(3,588)	$(4,521)
Net loss per common share, basic and diluted	$(64.81)	$ (6.74)	$(25.45)	$ (0.32)

In thousands, except per share data	Fiscal Year 2013 by Quarter: First	Second	Third	Fourth
Revenue	$ 259	$ 190	$ 116	$ 377
Loss from operations	$ (560)	$ (796)	$ (951)	$(1,287)
Net loss	$ (604)	$(1,336)	$(1,622)	$(1,428)
Net loss per common share, basic and diluted	$(5.54)	$(12.26)	$(14.88)	$(13.10)

(14) Subsequent Events:

On July 30, 2014, the Company completed a public offering in which the Company sold 2,000,000 shares of common stock at a public offering price of $15.00 per share. On August 1, 2014, the Company sold an additional 300,000 shares of common stock at a public offering price of $15.00 per share pursuant to the full exercise of an overallotment option granted to the underwriters in connection with the public offering that was completed in July 2014. The aggregate net proceeds received by the Company from the offering, including the exercise of the overallotment option, amounted to $32.0 million, net of underwriting discounts and commissions.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), is recorded, processed, summarized and reported within the time periods specified in the rules and forms, and that such information is accumulated and communicated to us, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating our disclosure controls and procedures, we recognize that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, as ours are designed to do, and we necessarily were required to apply our judgment in evaluating whether the benefits of the controls and procedures that we adopt outweigh their costs.

As required by Rule 13a-15(b) under the Exchange Act, an evaluation of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) as of June 30, 2014 was conducted under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of June 30, 2014.

Material Weakness in Internal Control over Financial Reporting and Status of Remediation Efforts.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting for our company. Internal control over financial reporting is a process to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States. Internal control over financial reporting includes maintaining records that in reasonable detail accurately and fairly reflect our transactions; providing reasonable assurance that transactions are recorded as necessary for preparation of our financial statements; providing reasonable assurance that receipts and expenditures of our assets are made in accordance with management's authorization; and providing reasonable assurance that unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements would be prevented or detected on a timely basis. Because of its inherent limitations, internal control over financial reporting is not intended to provide absolute assurance that a misstatement of our financial statements would be prevented or detected. Furthermore, our controls and procedures can be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the control, and misstatements due to error or fraud may occur and not be detected on a timely basis.

Our management has determined that as of June 30, 2014 and 2013, we had material weaknesses in our internal control over financial reporting which relate to the design and operation of our closing and financial reporting processes and our accounting for debt, equity and convertible instruments. We have concluded that these material weaknesses in our internal control over financial reporting are due to the fact that we do not have the appropriate resources with the appropriate level of experience and technical expertise to oversee our closing and financial reporting processes and to address the accounting and financial reporting requirements related to our issuances of convertible notes, preferred stock warrants, stock options, preferred stock and preferred stock purchase rights.

In order to remediate these material weaknesses, we are taking the following actions:

- we have hired three additional accounting and finance staff, including a permanent chief financial officer and a manager of financial reporting;

- we continue to seek additional accounting and finance staff members to augment our current staff and to improve the effectiveness of our closing and financial reporting processes; and
- we continue to formalize our accounting policies and internal controls documentation and strengthen supervisory reviews by our management.

Notwithstanding the material weaknesses described above, our management has concluded that the financial statements included elsewhere in this annual report present fairly, in all material respects, our financial position, results of operation and cash flows in conformity with U.S. generally accepted accounting principles.

Changes in Internal Control over Financial Reporting

Except for those remedial actions described above, there was no change in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the period covered by this report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item will be set forth under the captions "Election of Directors," "Executive Officers," "Code of Ethics," "Directors—Audit Committee Financial Expert" and "Corporate Governance" in our definitive proxy statement for the fiscal year 2014 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission no later than 120 days after the end of our fiscal year (the "2014 Proxy Statement"), and is incorporated herein by reference.

We are also required under Item 405 of Regulation S-K to provide information concerning delinquent filers of reports under Section 16 of the Securities and Exchange Act of 1934, as amended. This information will be set forth under the caption "Section 16(a) Beneficial Ownership Reporting Compliance" in our 2014 Proxy Statement, and is incorporated herein by reference.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item will be set forth under the captions "Executive Officers—Executive Compensation" in our 2014 Proxy Statement and is incorporated herein by reference.

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

The information required by Item 403 of Regulation S-K will be set forth under the caption "Security Ownership of Certain Beneficial Owners and Management" in our 2014 Proxy Statement, and is incorporated herein by reference.

We have two equity compensation plans under which awards are currently authorized for issuance, our 2013 Equity and Incentive Plan and our 2013 Employee Stock Purchase Plan. In connection with the consummation of our initial public offering in April 2014, our board of directors terminated any new offerings under our 2001

Stock Option Plan and our 2011 Stock Incentive Plan. Each of our 2013 Equity and Incentive Plan, our 2013 Employee Stock Purchase Plan, our 2001 Stock Option Plan and our 2011 Stock Incentive Plan was approved by our stockholders prior to our initial public offering in 2014. The following table provides information regarding securities authorized for issuance as of June 30, 2014 under our equity compensation plans.

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights, and vesting of outstanding restricted stock units	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans
	(a)	(b)	(c)
Equity compensation plans approved by securityholders	1,023,748	$6.21	968,036 (1)
Equity compensation plans not approved by securityholders	—	$ —	—
Total	1,023,748	$6.21	968,036

(1) Includes 839,465 shares issuable under our 2013 Equity and Incentive Plan, which may be issued in the form of options, restricted stock, unrestricted stock, performance share awards or other equity-based awards, and 128,571 shares issuable under our 2013 Employee Stock Purchase Plan.

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

The information required by this item will be set forth under the caption "Executive Officers—Certain Relationships and Related Transactions" and "Corporate Governance" in our 2014 Proxy Statement, and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item will be set forth under the caption "Independent Registered Public Accounting Firm" in our 2014 Proxy Statement, and is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Documents filed as a part of this Report:

(1) Financial Statements—See Index to Financial Statements and Financial Statement Schedule at Item 8 on page 104 of this Annual Report on Form 10-K.

(2) Financial Statement Schedules—See Index to Financial Statements and Financial Statement Schedule at Item 8 on page 104 of this Annual Report on Form 10-K. All other schedules are omitted because they are not applicable or not required.

(3) Index to Exhibits.

Exhibit number	Description
3.1	Fifth Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the SEC on April 1, 2014)
3.2	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed with the SEC on April 1, 2014)

4.1	Specimen certificate evidencing shares of common stock (incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.1	Lease Agreement made as of September 19, 2011, by and between Thomson-Davis Enterprises, LLC and Applied Genetic Technologies Corporation (incorporated by reference to Exhibit 10.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.2†	Exclusive License Agreement with Sublicensing Terms, effective as of September 25, 2001, by and between the University of Florida Research Foundation, Inc. and Applied Genetic Technologies Corporation (incorporated by reference to Exhibit 10.2 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.3†	Restated Amendment to License Agreement made and, effective as of January 31, 2005, by and between the University of Florida Research Foundation, Inc. and Applied Genetic Technologies Corporation (incorporated by reference to Exhibit 10.3 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.4†	First Amendment After Restated Amendment to License Agreement, made and effective as of November 28, 2007, by and between the University of Florida Research Foundation, Inc. and Applied Genetic Technologies Corporation (incorporated by reference to Exhibit 10.4 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.5†	Standard Exclusive License Agreement with Sublicensing Terms, effective as of October 7, 2003, by and between the University of Florida Research Foundation, Inc., Johns Hopkins University and Applied Genetic Technologies Corporation (incorporated by reference to Exhibit 10.5 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.6†	First Amendment to Standard Exclusive License Agreement with Sublicensing Terms, made as of November 2004, by and between the University of Florida Research Foundation, Inc., Johns Hopkins University and Applied Genetic Technologies Corporation (incorporated by reference to Exhibit 10.6 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.7†	Second Amendment to Standard Exclusive License Agreement with Sublicensing Terms, made as of February 25, 2009, by and among Applied Genetic Technologies Corporation, the University of Florida Research Foundation, Inc. and Johns Hopkins University (incorporated by reference to Exhibit 10.7 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.8†	Non-Exclusive License Agreement with Sublicensing Terms, made as of January 19, 2006, by and between The UAB Research Foundation, Inc. and Applied Genetic Technologies Corporation (incorporated by reference to Exhibit 10.8 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.9†	Standard Non-Exclusive License Agreement, effective as of September 18, 2012, by and between the University of Florida Research Foundation, Inc. and Applied Genetic Technologies Corporation (incorporated by reference to Exhibit 10.10 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.10†	Standard Exclusive License Agreement with Know How, effective as of November 5, 2012, by and between the University of Florida Research Foundation, Inc. and Applied Genetic Technologies Corporation (incorporated by reference to Exhibit 10.11 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.11	Amended and Restated Investor Rights Agreement, dated as of November 15, 2012 (incorporated by reference to Exhibit 10.12 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))

10.12*	Applied Genetic Technologies Corporation 2001 Stock Option Plan, as amended (incorporated by reference to Exhibit 10.13 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.13*	Applied Genetic Technologies Corporation 2011 Stock Incentive Plan, as amended, and forms of Incentive Stock Option Agreement and Nonstatutory Stock Option Agreement thereunder (incorporated by reference to Exhibit 10.14 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.14*	Applied Genetic Technologies Corporation 2013 Equity And Incentive Plan (incorporated by reference to Exhibit 10.15 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.15*	Applied Genetic Technologies Corporation 2013 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.16 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.16	Form of Applied Genetic Technologies Corporation Warrant to Purchase Shares of Series A-1 Preferred Stock (incorporated by reference to Exhibit 10.17 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.17	Form of Applied Genetic Technologies Corporation Warrant to Purchase Shares of Series B-1 Preferred Stock (incorporated by reference to Exhibit 10.18 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.18	Warrant to Purchase Shares of Series A-1 Preferred Stock of Applied Genetic Technologies Corporation issued to Silicon Valley Bank and effective on September 23, 2005 (incorporated by reference to Exhibit 10.19 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.19	Warrant to Purchase Shares of Series A-1 Preferred Stock of Applied Genetic Technologies Corporation issued to Silicon Valley Bank and effective on June 30, 2006 (incorporated by reference to Exhibit 10.20 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.20	Warrant to Purchase Shares of Series A-1 Preferred Stock of Applied Genetic Technologies Corporation issued to Square 1 Bank on July 6, 2010 (incorporated by reference to Exhibit 10.21 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.21	Warrant to Purchase Shares of Series B-1 Preferred Stock of Applied Genetic Technologies Corporation issued to Square 1 Bank on August 31, 2012 (incorporated by reference to Exhibit 10.22 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.22	Form of Indemnification Agreement for Directors Associated with an Investment Fund (incorporated by reference to Exhibit 10.23 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.23	Form of Indemnification Agreement for Directors Not Associated with an Investment Fund (incorporated by reference to Exhibit 10.24 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.24†	Second Amendment After Restated Amendment to License Agreement, made and effective as of January 10, 2014, by and between the University of Florida Research Foundation, Inc. and Applied Genetic Technologies Corporation (incorporated by reference to Exhibit 10.25 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))

10.25†	Fourth Amendment to Standard Exclusive License Agreement with Sublicensing Terms, made as of December 17, 2013 by and between the University of Florida Research Foundation, Inc., Johns Hopkins University and Applied Genetic Technologies Corporation (incorporated by reference to Exhibit 10.26 to the Registrant's Registration Statement on Form S-1 (File No. 333-193309))
10.26*	Letter Agreement dated July 22, 2013 by and between the Company and Dan Menichella (incorporated by reference to Exhibit 10.26 to the Registrant's Registration Statement on Form S-1 (File No. 333-197385))
10.27†	First Amendment to Non-Exclusive License, made as of March 28, 2014, by and between the UAB Research Foundation, Inc. and Applied Genetic Technologies Corporation (incorporated by reference to Exhibit 10.27 to the Registrant's Registration Statement on Form S-1 (File No. 333-197385))
10.28*	Letter Agreement dated January 22, 2014 by and between the Company and Larry Bullock (incorporated by reference to Exhibit 10.28 to the Registrant's Registration Statement on Form S-1 (File No. 333-197385))
31.1**	Certification of Principal Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2**	Certification of Principal Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1**	Certification of Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
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

* Management contract or compensatory plan or arrangement

** Filed herewith

† We have omitted portions of this exhibit, for which confidential treatment has been granted.

‡ Pursuant to Rule 406T of Regulation S-T, the interactive files on Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Section 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

SCHEDULE II—VALUATION AND QUALIFYING ACCOUNTS

In thousands	Beginning of Period	Additions: Charge (Benefit) to Expenses	Additions: To (from) Other Accounts	Deductions	End of Period
Deferred Tax Valuation Allowance					
Year 2014	$18,956	$5,130	$—	$—	$24,086
Year 2013	$17,468	$1,488	$—	$—	$18,956
Year 2012	$16,487	$ 981	$—	$—	$17,468

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.

APPLIED GENETIC TECHNOLOGIES CORPORATION

By: /s/ Susan B. Washer
Susan B. Washer
President and Chief Executive Officer
Date: September 26, 2014

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report has been signed below by the following persons on behalf of the Company and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Susan B. Washer **Susan B. Washer**	Chief Executive Officer, President and Director (Principal Executive Officer)	September 26, 2014
/s/ Lawrence E. Bullock **Lawrence E. Bullock**	Chief Financial Officer (Principal Financial and Accounting Officer)	September 26, 2014
/s/ Scott Koenig **Scott Koenig**	Director	September 26, 2014
/s/ David Guyer **David Guyer**	Director	September 26, 2014
/s/ Ed Hurwitz **Ed Hurwitz**	Director	September 26, 2014
/s/ Ivana Magovcevic-Liebisch **Ivana Magovcevic-Liebisch**	Director	September 26, 2014
/s/ Arnold Oronsky **Arnold Oronsky**	Director	September 26, 2014
/s/ James Rosen **James Rosen**	Director	September 26, 2014

Management Team

Susan B. Washer
President, Chief Executive Officer and Director

Jeffrey Chulay, M.D.
Vice President and Chief Medical Officer

Daniel Menichella
Vice President and Chief Business Officer

Lawrence E. Bullock
Chief Financial Officer

David R. Knop
Senior Director, Process Development

Board of Directors

Scott Koenig, M.D., Ph.D.
President, Chief Executive Officer and Director of MacroGenics, Inc.

Susan B. Washer
President, Chief Executive Officer and Director of Applied Genetic Technologies Corporation

David R. Guyer, M.D.
Chief Executive Officer and Chairman of the Board of Directors of Ophthotech Corporation

Ed Hurwitz
Managing Director, Precision BioVentures, LLC

Ivana Magovcevic-Liebisch, Ph.D.
Senior Vice President, Head of Global Business Development for Teva Pharmaceutical Industries Ltd.

Arnold L. Oronsky, Ph.D.
General Partner of InterWest Partners, LLC

James Rosen
Partner at Intersouth Partners

CORPORATE AND STOCKHOLDER INFORMATION

Corporate Headquarters
Applied Genetic Technologies Corporation
11801 Research Drive, Suite D
Alachua, Florida 32615
www.agtc.com

Common Stock Listing
Our common stock is traded on the NASDAQ Global Market under the symbol "AGTC."

Independent Registered Public Accounting Firm
McGladrey LLP
1201 Edwards Mill Road
Raleigh, North Carolina 27607

Annual Meeting
The Company's annual meeting of stockholders will be held at 12:30 p.m., Eastern time, on November 19, 2014 at the offices of RR Donnelley located at 255 Greenwich Street, 3rd Floor, New York, NY 10007.

Investor Inquiries
The 2014 Annual Report, Form 10-K and other investor information are available free of charge through the investor portion of our website at *ir.agtc.com*.

Legal Counsel
Foley Hoag LLP
Seaport West
155 Seaport Boulevard
Boston, Massachusetts 02210

Transfer Agent
Computershare Trust Company, N.A.
250 Royall Street
Canton, Massachusetts 02021