ADVANCED CELL TECHNOLOGY, INC.
Form 10-K
March 07, 2013

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2012

OR

¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____

Commission file number 0-50295

ADVANCED CELL TECHNOLOGY, INC.

(Exact name of registrant as specified in its charter)

Delaware	87-0656515
(STATE OR OTHER JURISDICTION OF INCORPORATION OR ORGANIZATION)	(I.R.S. EMPLOYER IDENTIFICATION NO.)

33 Locke Drive, Marlborough, Massachusetts 01752

(508) 756-1212

(Address and telephone number, including area code, of registrant's principal executive offices)

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

None.

(Title of Class)

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

Common Stock, $0.001 par value per share

(Title of Class)

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

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

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 x No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 229.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K 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 x
Non-accelerated filer ¨ (Do not check if a smaller reporting company)	Smaller reporting company ¨

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

The aggregate market value of the registrant's Common Stock held by non-affiliates of the registrant (based upon the closing price of $0.06 for the registrant's Common Stock as of June 30, 2012) was approximately $128 million (based on 2,130,525,721 shares of common stock outstanding and held by non-affiliates on such date). Shares of the registrant's Common Stock held by each executive officer and director and by each entity or person that, to the registrant's knowledge, owned 10% or more of the registrant's outstanding Common Stock as of June 30, 2012 have been excluded in that such persons may be deemed to be affiliates of the registrant. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The number of outstanding shares of the registrant's Common Stock, $0.001 par value, was 2,336,603,922 shares as of February 4, 2013.

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CAUTIONARY STATEMENT RELATING TO FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K and the information incorporated by reference includes ‘‘forward-looking statements’’ All statements regarding our expected financial position and operating results, our business strategy, our financing plans and the outcome of any contingencies are forward-looking statements. Any such forward-looking statements are based on current expectations, estimates, and projections about our industry and our business. Words such as ‘‘anticipates,’’ ‘‘expects,’’ ‘‘intends,’’ ‘‘plans,’’ ‘‘believes,’’ ‘‘seeks,’’ ‘‘estimates,’’ or variations of those words and similar e intended to identify such forward-looking statements. Forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from those stated in or implied by any forward-looking statements.

PART I

Item 1. Business.

Overview

Advanced Cell Technology, Inc., a Delaware corporation (the “Company”, “ACT”, “we”, “us”, or “our”) is a life science company focused on the emerging field of regenerative medicine. ACT has unique scientific leadership and research competencies which the Company believes provides opportunities for discovery and innovation in regenerative medicine. The Company’s core business strategy is to develop and ultimately commercialize stem cell derived cell therapies and biologics that will deliver safe and efficacious patient therapies, and which can be manufactured at scale and are reimbursable at attractive levels. The Company is conducting several ongoing clinical trials for treating macular degeneration, and has a preclinical development pipeline focused on products for eye diseases, autoimmune and inflammatory diseases, and wound healing. The Company’s corporate headquarters and principle laboratory and manufacturing facilities are located in Marlborough, Massachusetts.

An Overview of Regenerative Medicine

During the last century, efforts toward preventing and battling disease frequently focused on the use of drugs, specifically molecules designed to somehow alter or slow the course of a disease by affecting how a cell or a group of cells behave. This pharmacological approach has played, and will continue to play, an invaluable role in efforts to ensure a long and healthy life. It has led to the development of drugs that can combat infection, slow down cancer progression, and help in a myriad of diseases. Yet, even with this large and complex arsenal of drugs, there are many occasions where this type of medicine falls short.

Regenerative medicine is defined as the process of replacing or "regenerating" human cells, tissues or organs to restore or establish normal function and has been called the "next evolution of medical treatments" and “the vanguard of 21st century healthcare” by the U.S. Department of Health and Human Services. This new field of medicine is expected to potentially revolutionize health care and health care delivery. ACT’s business focus is the development of new therapies for this new field of regenerative medicine.

Cell therapies, such as those being developed by ACT, offer a potentially complete solution for complex physiologic processes in a way and through a mechanism of action which are not expected to be attainable using traditional small molecule or protein therapeutics. This field holds the potential to regenerate damaged tissues and organs in the body by replacing damaged tissue or by stimulating the body's own repair mechanisms to heal tissues or organs. By altering the course of disease, regenerative medicine could make it possible to eliminate the need for daily therapies, reduce

hospitalizations and avert expensive medical procedures, thus enabling patients to lead healthier and more productive lives. Regenerative medicine, such as those therapies being developed by our Company, could provide more effective solutions or potential cures for a broad range of inflammatory and autoimmune diseases, and provide meaningful advances for a range of other chronic, orphan, and aging related conditions that traditional medicine has no real answer for, and that represent a quality of life and economic burden on society.

The necessity for such treatments arises as a consequence to the rapidly growing numbers of people over the age of 65. The age structure of the overall population is projected to change greatly over the next 40 years. The world's population is aging, primarily as a function of declining fertility coupled with increasing life expectancy. Aging is occurring not only in high income countries but also in middle and low income countries. In fact, between now and 2050 the world is projected to experience rapid growth in its older population. Figure 1 shows the projected growth of two groups of older people – those aged 65-79 and those 80 years and older. The rapid growth of the over-80 group is related to increases in life expectancy related to improving medical care and nutrition during the century.

People live longer now than at any time in the past with advances in medicine predicted to extend life expectancy even further.

By 2050, the number of people over the age of 65 living in developed countries is projected to exceed 325 million; when including the developing countries, this number rises to 1.5 billion – a nearly tripling of the over-65 population as compared to today. In the United States, as an example, the number of Americans aged 65 and older is projected to be 88.5 million, more than double the population of 40.2 million in 2010. By 2050, the U.S. population is projected to grow to 439 million, an increase of 42 percent relative to the 2010 census numbers of 310 million. The population is also expected to become much older. Those over the age of 85 accounted for 5.8 million Americans in the 2010 census, and are expected to reach 8.7 million by 2030 and then 19 million by 2050.

Chronic diseases and impairments, which are among the leading causes of disability in older people, can negatively impact quality of life, lead to a decline in independent living, and impose an economic burden. About 80 percent of seniors in developed countries have at least one chronic health condition and 50 percent have at least two. According to the Centers for Disease Control, of the roughly 150,000 people who die each day, about two thirds die of age-related causes. In industrialized nations, the proportion is much higher, reaching 90%. Concern is growing that medical advances leading to longevity will in turn lead to an older population who have a higher incidence of functional and cognitive impairment. As Figure 2 illustrates, as life expectancy increases so does the incidence of chronic and degenerative health conditions, threatening to create a wider gap between healthy life expectancy and total life expectancy.

Currently, the vast majority of treatments for chronic and/or life-threatening diseases are palliative, meaning they merely treat the symptoms rather than cure the underlying cause. Others delay disease progression and the onset of complications associated with the underlying illness. Only a very limited number of therapies available today are capable of curing or significantly changing the course of disease. The result is a healthcare system burdened by costly treatments for an aging, increasingly ailing population, with few solutions for containing rising costs. Figure 3 demonstrates the predicted impact that our aging population is expected to have on the cost of healthcare in less than 20 years. The demographic shift in aged populations towards older adults in the United States alone will likely add more than one trillion dollars to the direct cost of healthcare, and multiples of that amount for the indirect costs associated with accommodating the needs of older Americans. According to a June 2009 report from the Council of Economic Advisers (CEA) to the White House, health care expenditures in the United States are currently about 18 percent of GDP, and this share is projected to rise sharply. If health care costs continue to grow at historical rates, the share of GDP devoted to health care in the United States is projected to reach 34 percent by 2040.

Regenerative medicine has the potential to change the thinking about disease, aging, and even the practice of medicine itself – and, as the promise goes, to help reduce continuously growing health care costs. The best way to address the escalating economics of healthcare includes developing more effective treatments, and even cures, for the most burdensome diseases – such as macular degeneration, diabetes, neurodegenerative disorders, stroke and cardiovascular disease, as examples – which may help to facilitate longer, healthier and more productive lives. We believe the current trends in growth of degenerative disease populations provides support to our investment thesis for the development of our therapeutic programs. The regenerative cell therapies currently in development at ACT may have both therapeutic benefit and provide meaningful reduction to the otherwise predicted increase in healthcare costs resulting from aging. As such, we believe those factors may help the Company obtain favorable pricing and reimbursement considerations for our therapies. We believe we can translate our unique competitive advantage from cell technology through product commercialization, and provide meaningful and effective new therapies for degenerative diseases.

Pluripotent Stem Cell Platforms

We believe the markets for regenerative medicine and stem cell therapies are potentially large and so the logistics of producing appropriate numbers of dosages in a cost effective manner is important to achieving scalable success in this field. Pluripotent stem cells offer the Company that opportunity.

In general, there are two broad categories of stem cells: adult stem cells and pluripotent stem cells. The term “stem cells” describe all of the cells that can give rise to the different cells found in tissues. A common feature to all stem cells, both adult and pluripotent, is the ability to both replicate (propagate) itself as well as differentiate into two or more different mature cell types. There are however, differences between adult and pluripotent stem cells. Adult stem cells are derived from various tissues in the human body and are typically limited in the diversity of other cell types they can become (usually only able to produce two or three different types of mature cells), as well as are often limited on how much they can divide and renew in culture before ceasing to grow. In contrast, pluripotent stem cells are often termed “true” stem cells because they have the potential to differentiate into almost any cell in the body, and have a near infinite capacity to replicate and self-renew as a starting material. Pluripotent stem cells provide the opportunity to obtain a centrally manufactured renewable source of healthy cells and tissues to treat a wide array of diseases, and as such, these stem cells are an important aspect to ACT’s business approach to developing effective therapies.

A principle focus for the Company is on cell therapies that can be derived from pluripotent stem cell stocks and delivered to patients in a manner that does not require the need to match donor and recipient. This type of cell therapy is referred to as allogeneic. This permits the use of a single master stem cell bank in the manufacturing of the therapeutic doses to be used such that one uniform source of starting cells can be readily controlled for consistency, lack of infectious agents and cleared by regulatory agencies. The pluripotent stem cell approach the Company is deploying also permits the use of cell culturing and manufacturing techniques that we believe will prove to be far less costly and are intrinsically more scalable than the high touch process that otherwise characterize the vast majority of autologous cell therapies which requires the extraction of cells from patients, manipulation in culture and re-implantation, or the use of allogeneic adult stem cell sources which can require other companies to recruit thousands of patients every year to act as donors.

Pluripotent stem cells include two distinct cell types: (1) embryonic stem (ES) cells and (2) induced pluripotency stem (iPS) cells which have ES-like properties.

Embryonic Stem Cell Platform

A human embryonic stem cell (hESC) line represents a potentially inexhaustible supply of pluripotent cells. Derived from a single cell, the replicative capacity of an hESC line could be enormous. In addition to the ability to generate a

virtually inexhaustible and self-renewing source of stem cells, embryonic stem cells have specific properties that make them particularly useful for cell-based therapies, and perhaps have the greatest therapeutic potential because they are able to differentiate into all of the more than 200 types of cells in the human adult body.

The Company believes that medical researchers recognize the significance of hESC technology and are attempting to translate this discovery into new therapies. ACT has been focused on this type of research, both in terms of derivation of transplantable tissues for therapeutic purposes, as well as the development of ethically-compliant embryonic stem cell lines.

Our proprietary method utilizes a process called “single cell biopsy” to remove a single blastomere from a 4-8 cell pre-embryo in a manner which does not result in the destruction of the pre-embryo nor cause it any harm. While the overall process for deriving hESC lines from single blastomeres is proprietary to our Company, and covered by an issued U.S. patent, the underlying single cell biopsy technique itself is one that has been used routinely for more than a decade by in vitro fertilization clinics as part of a process called pre-implantation genetic diagnostics (PGD). In those clinics, single cells are removed from 4-8 cell pre-embryos and tested for genetic and chromosomal abnormalities, and embryos which pass PGD screening can then be used for implantation. The single cell biopsy process is not only non-destructive, but had been determined to be a process which does not subject the pre-embryo to any undue risk of harm. PGD is used routinely as part of IVF processes resulting in the birth of thousands of children every year, and the safety of the single cell biopsy technique we adopted has been examined in several large-scale clinical studies and has been determined to have no deleterious effect on the outcome of the IVF process.

The hESC line that we currently anticipate using for commercial manufacturing of our hESC-derived therapeutic cells doses is a line created in 2005 and termed “NED-07”. A single cell biopsy was used to create the NED-07 hESC line, and the pre-embryo from which the cell was extracted was replaced unharmed back into cryopreservation. That single extracted cell, isolated in 2005, was coaxed in culture to become an embryonic stem cell, which in turn was able to divide and divide, over and over again, so as to form a potentially inexhaustible source of stem cells which today we can use in the manufacturing of cell therapy products across all our therapeutic programs. We do not currently expect the need to derive any new embryonic stem cell lines.

iPS Cell Platform

Induced pluripotent stem cells (iPSCs) are adult cells that have been genetically reprogrammed to an embryonic stem cell-like state by being manipulated genetically to express genes and factors important for maintaining the defining properties of embryonic stem cells. The reprogramming of adult cells into embryonic stem cells enables the generation of patient-specific stem cells and thus has potential for the treatment of degenerative diseases. Given that iPS cells can be made in a patient-specific manner, there exists the potential for iPS derived cells to be transplanted back into the same patient without rejection, and so might be used in treatment settings where donor-recipient (HLA) matching would be necessary to prevent rejection of the transplanted cells.

The Company believes that iPS cells hold promise in future manufacturing processes for certain cell therapies. iPS cells are similar to natural pluripotent stem cells, such as embryonic stem cells, in many aspects, but the full extent of their relation is still being assessed. The challenge around iPS cells is to better define differences in the epigenetics and gene expression of the resulting cells and subsequently improving the reprogramming methods in order to make human iPS cells a truly tractable alternative to human ES cells. In the coming years, the efficiency of generating iPS cells and the understanding of the mechanisms of cell programming and reprogramming is likely to improve to a point where the Company may be able offer iPSC-derived cell therapies more generally, in addition to hESC-derived therapies.

In the meantime, as described below, the Company is exploring the use of platelets from iPSC sources. Platelets are cell fragments. They lack a nucleus (and accordingly lack genetic information that could be a source of mutation) and do not replicate. Platelets only circulate in the body for about a week, and then are removed. From a safety perspective, the Company believes that platelets may be an exceptional first use of iPSC technology to counter some of the safety issues that need to be addressed with the FDA and other regulatory agencies.

Our Cell Therapy Research Programs

We pursue differentiation approaches to generating transplantable tissues both in-house and through collaborations with other researchers who have particular interests in, and skills related to, cellular differentiation. Our research in this area includes projects focusing on developing many different cell types that may be used to treat a range of diseases across several therapeutic categories. Control of differentiation and the culture and growth of stem and differentiated cells are also important current areas of research for us.

Ophthalmology Programs

Eye diseases are common worldwide, with expanding patient populations due to aging. The recent success of Lucentis as a palliative therapy in the wet age-related macular dystrophy market highlights the therapeutic and commercial potential of this sector. There are several examples of large pharmaceutical and global biotech companies either recently repositioning themselves, or entering ophthalmology for the first time, as the industry comes to appreciate the potential size of this market – and its projected growth rate as a consequence of an increasing aged population. Yet despite the interest, several disease areas of ophthalmology remain underserved by prescription pharmaceuticals.

The largest unmet medical needs relate to retinal diseases, such as age-related macular degeneration, diabetic retinopathy and retinitis pigmentosa. Inflammatory diseases such as uveitis, and vision loss from photoreceptor damage due to glaucoma, also represent significant patient populations for which effective therapies have remained elusive. These conditions have been under-served primarily because of their complexity, which has eluded the development of new drugs – at least traditional small molecule and biologics. ACT is developing a pipeline of stem cell derived therapeutics which may have use as part of treatments for degenerative diseases of the eye, and in some instances may be able to repair and replace damaged tissue in the eye so as to be restorative of vision. ACT has the opportunity to not only provide patients with first-in-class medicines but to do so in connection with potential collaborations and strategic partnerships. As our understanding of the underlying pathophysiology of ocular disease increases, the Company believes it will have additional opportunities to develop other therapeutic products for the ophthalmology market.

(i) Treating Macular Degeneration

By far the largest indication involving macular degeneration is “age-related macular degeneration” (AMD). AMD is the leading cause of blindness and visual impairment in older adults (>50 years). It is estimated that the clinically detectable AMD patient population in North America and Europe includes about 25-30 Million people across the range of disease from early stage to legal blindness. Indeed, AMD represents one of the largest unmet medical needs in medicine today in terms of the lack of useful therapeutics in the case of dry AMD.

Central to the progression of AMD is the retinal pigment epithelium (RPE), which is a monolayer of pigmented cells forming a part of the blood/ocular barrier. This discrete layer of cells is a very thin, pigmented cell layer found directly beneath the photoreceptor cells. RPE cells sit between the photoreceptor cell layer of the retina and the Bruch's membrane and choroid, a layer filled with blood vessels. Because the photoreceptors see no direct blood supply, it is the role of the RPE layer to bring nutrients and oxygen to the photoreceptor cells, as well as to supply, recycle, and detoxify products involved with the phototransduction process. In particular, the RPE layer serves as the transport layer that maintains the integrity of the structure of the photoreceptor environment by acting as an intermediary between the nerve layer and blood vessels, supplying small molecules, transporting ions and water from the blood vessels to the photoreceptor layer. The RPE takes up nutrients such as glucose, retinol, and fatty acids from the blood and delivers these nutrients to photoreceptors. The RPE layer also prevents the buildup of toxic metabolites around the nerve cells by transporting the metabolites to the blood. In addition, the RPE is able to secrete a variety of growth factors helping to maintain the structural integrity and organization of the photoreceptors.

Maintenance of the Bruch’s membrane, which serves as a natural antiangiogenic barrier that prevents the capillary bed of the choroid from invading and disrupting the photoreceptor and nerve microarchitecture of the retina, is also an important function of the RPE layer. RPE cells also recycle proteins and other components involved in a process is

known as the visual cycle of retinal (Vitamin A cycle), which isomerizes all trans-retinol to 11-cis retinal – the latter of which is required by photoreceptors for vision. A failure of any one of these functions of the RPE layer can lead to degeneration of the retina, loss of visual function, and blindness. Dysfunction and degeneration of the RPE layer is in fact implicated in many disease processes, the most prominent being various forms of macular degeneration.

Age-related macular degeneration, as the name implies, usually affects older adults and results in a loss of vision in the center of the visual field (the macula) because of damage to the retina. It occurs in "dry" and "wet" forms. In the case of dry AMD, the disease process appears to initiate with loss of RPE cells (cell death) followed by some period of photoreceptor atrophy and inactivity, and after sufficient time, photoreceptor death. For most dry AMD patients, loss of central vision occurs first, eventually spreading to consume peripheral vision as well. Wet AMD is often an end-stage for dry AMD, with the loss of the RPE layer and its ability to maintain the Bruch's membrane function as a barrier resulting in failure of the membrane's integrity and new blood capillaries penetrating into the photoreceptor space. In addition to AMD, there are nearly 200 other forms of macular degenerative diseases which, even if the underlying causes are different, appear to follow the same course of RPE loss followed by photoreceptor atrophy and loss. These include, for example, a juvenile onset form of macular degeneration called Stargardt's Macular Dystrophy (SMD).

It had been reported in scientific journal articles that a portion of the RPE layer could be transplanted from one part of the eye to the macula and in doing so rescue photoreceptor function. In some instances, the investigators demonstrated that for a significant period of time after onset of the disease, photoreceptors appeared to remain present but were not functional due to the loss of an adjacent functional RPE layer. Transplantation of a healthy RPE layer to the macula was able to reactivate the dormant photoreceptors. However, for many different reasons, the use of adult RPE tissue is not a tractable solution for treating dry AMD.

The Company recognized that if it could generate RPE cells from pluripotent stem cell sources, such as an hESC line, it could potentially solve the sourcing of transplantable RPE cells for treating macular degenerative conditions. We believe that the area in which the RPE layer exists is likely to remain immune-privileged in dry AMD patients, meaning that donor matching was not likely to be an issue so that a single and scalable allogeneic source of RPE cells, one that can be manufactured in culture, might provide a therapeutic solution. We created a GMP-compliant hESC master stem cell bank and a GMP protocol for scaled up manufacturing of human RPE cells from our hESC master bank. ACT conducted animal testing of the human RPE cells we were generating in culture, and were able to establish that even when injected into the eyes of test animals as a suspension of cells (rather than transplanted as a sheet), the human RPE cells were able to home to areas of damage in the RPE layer, engraft and recapitulate the correct anatomical structure in the back of the eye of the animals. As published in Stem Cells, the Company also demonstrated that in animal models of macular degeneration, not only did the human RPE cells reform the correct structure, but also that the injection of the cells resulted in preservation of the photoreceptor layer and its function. That is, the injected human RPE cells repaired and restored the function of the RPE layer in animal models of disease.

This data, along with safety data the Company collected on the human RPE cells, formed the basis of several Investigative New Drug (IND) applications filed and approved by the U.S. FDA, and an Investigational Medicinal Product Dossier (IMPD) approved by the U.K. MHRA. In the U.S., one of the Company's ongoing clinical trials is a Phase I/II study for treating dry AMD patients by injection of RPE cells made in culture from an hESC line. The Company is also conducting Phase I/II studies in both the U.S. and the U.K. for the treatment of SMD patients using the RPE cell injections. As described in greater detail below, a total of 18 patients have now been treated in these three clinical trials. More information on the design and criteria for these three trials can be found at clinicaltrials.gov under the references NCT01345006, NCT01344993 and NCTO1469832.

The Company is joined in these three trials by some of the leading retinal surgeons at the top eye hospitals. Jules Stein Eye Institute (UCLA), Wills Eye Institute, Bascom Palmer Eye Institute (University of Miami) and Massachusetts Eye and Ear Infirmary are participating as clinical study sites, and a leading retinal surgeon from Wilmer Eye Hospital (Johns Hopkins) participates on the Data and Safety Monitoring Board (DSMB) overseeing the trials. The U.K. study is being led by investigators at Moorfields Eye Hospital in London together with Bascom Palmer Eye Institute.

In February 2013, the Company also announced that its clinical partner, the Jules Stein Eye Institute at the University of California, Los Angeles had received approval of its Investigator IND Application to initiate a Phase I/II study using ACT's RPE cells to treat myopic macular degeneration (MMD), a form of macular degeneration that can occur in association with severe forms of myopia (nearsightedness). This form of macular degeneration seems to be associated with stress on the RPE layer as a consequence to elongation of the eyeball structure in myopic patients. The stress can induce fissures in the RPE layer, leading to RPE cell death and ultimately macular dystrophy and degeneration. The Company expects the MMD trial to commence in the second half of 2013.

The design of the Phase I portion of each of the three ongoing trials is similar. Each is an ascending dosage trial, originally designed to have twelve patients to be enrolled. The first patients were treated July 2011. Upon reaching the halfway point for all three trials, a total of 18 patients, without any adverse events associated with the injection of the RPE cells, the Company was granted approval by the FDA to enroll earlier stage patients in the two U.S. studies. Under the amended protocol, patients with better vision, a visual acuity of 20/100, will be eligible for enrollment in the remainder of the trials.

We believe the results from the first half of the clinical trials, though very preliminary and only representing a small number of patients are promising. Preliminary results for the first dry AMD and first SMD patient were published in early 2012 in the Lancet. Since that publication, 16 additional patients have been treated (bringing the totals to 12 SMD patients and 6 dry AMD patients). There have been no adverse events reported from the injection of the RPE cells – which is the primary point of the Phase I aspect of these studies. The trial sites have provided regular follow-up on all of the patients, and have been able to include data relating to the engraftment and persistence of the injected cells as well as impacts on visual acuity. The preliminary data reported back to the Company has suggested that not only are the injected cells well tolerated by the patients, but the injected cells appear to generally be capable of engrafting at the site of injection, forming the appropriate anatomical monolayer structure, and resurfacing/repairing the damaged RPE layer around the injected area. Visual acuity was improved to varying degrees in several of these very late stage patients – a result that was not anticipated in the original design of these studies due to the then inclusion criteria permitting participation by only very late stage patients that had been rendered blind by these diseases. With the recently approved amendment permitting us to treat patients with vision as good as 20/100, the Company believes that the treatment of patients representing intermediate stages of the diseases – e.g., patients likely to have more photoreceptors in a dormant state as compared to the later stage patients we have already treated – might mean an increased chance that improvements to visual acuity may be more consistently measured in the second half of the clinical trials.

As the Company continues to manage the clinical trials, as well as to expand the indications for which its RPE cell therapy is being investigated, we have also begun to take the steps to define our final product formulation, as well as to lay the early ground work to support appropriate pricing and reimbursement programs. We believe that our RPE therapy provides pricing justification across all categories of consideration by both Medicare, Medicaid and private payers. Our SMD program has been granted Orphan Drug status in both the U.S. and Europe, and accordingly permits fast track status, potential FDA grant opportunities, and opportunities for early and favorable pricing considerations.

(ii) Photoreceptor Progenitor Program

Photoreceptors mediate the first step in vision, capturing light and turning that into nerve signals to the brain. Rod photoreceptors are active in dim light, while cone photoreceptors are active in bright light and are required for color vision. The photoreceptor atrophy and subsequently cell death and permanent loss of photoreceptors is seen in later stages of AMD. Loss of photoreceptors is also a consequence to diseases such as diabetes and retinitis pigmentosa (RP), and elevated intraocular pressure (IOP) such as associated with glaucoma, and represent additional and significant causes of blindness in developed countries. Similar to the Company's RPE therapy, we recognize the potential value of being able to repair the retina with replacement photoreceptor cells derived from pluripotent stem cell sources such as human ES cells. We believe those therapies can provide the basis for new approaches for treating a wide variety of retinal degenerations in diseases where photoreceptors malfunction and/or die, alone or in combination with our RPE therapy.

The Company has developed a novel human photoreceptor progenitor cell. We believe that our photoreceptor progenitor cells are unique with respect to both the markers they express as well as their plasticity – meaning that they can differentiate into both rods and cones, and as such provide an excellent source of new photoreceptors for retinal repair. The Company will continue its preclinical investigation in animal models, establish appropriate correlation between integration of the transplanted cells and visual function in the animals, and then consider preparation of an IND and/or IMPD application to commence clinical studies with these cells.

(iii) Retinal Ganglion Cell Progenitor Program

In the United States alone, approximately 100,000 people are legally blind from glaucoma. The only proven treatment is drug therapy or surgically lowering the intraocular pressure, but many patients lose vision despite treatment. In

glaucoma, retinal ganglion cells degenerate before photoreceptors are lost. Finding a way to differentiate stem cells into retinal ganglion cells and demonstrating the ability of those cells to protect against elevated IOP in glaucoma models has been another area of research and development at ACT. We have succeeded in generating a unique human ganglion progenitor cell which, when injected in animal models of glaucoma, appear to be able to form new ganglion nerve cells. The Company will continue its preclinical investigation in animal models, establish appropriate correlation between integration and visual function in the animals, and then consider preparation of an IND and/or IMPD application to commence clinical studies with these cells.

(iv) Corneal Endothelial Program

Diseases and injuries affecting the cornea are another major cause of blindness worldwide. Although the cornea is clear and seems to lack substance, it is actually a highly organized group of cells and proteins. To see well, all layers of the cornea must be free of any cloudy or opaque areas. In instances where the cornea is damaged, such as due to chemicals or infection, or undergoes dystrophy or thinning as a consequence of aging, the current standard of care is a cornea transplant, also referred to as a keratoplasty or corneal graft. The graft replaces damaged corneal tissue with healthy corneal tissue donated from an eye bank. In the past, full thickness corneal transplants were used as part of the procedure. However, a newer version of corneal transplant, known as Descemet's Stripping Endothelial Keratoplasty (DSEK), is gaining prominence as the surgical method. DSEK uses only a very thin portion of the cornea, just the endothelial layer and descemet membrane, for transplant. While cornea transplants are performed routinely (more than 40,000 cornea transplants are performed in the U.S. each year), there is still a pressing need for transplantable corneal tissue. The cadaveric source of donor eyes in the eye banks in the U.S. is not sufficient for the number of patients in need of the surgery, and the corneal tissue being used is often from older donors and hence not as dense or robust as might be desired. In certain parts of the world where organ donation is not yet a normal part of the social fabric, the shortage of donated eyes for use in corneal transplants leaves corneal blindness as a major unmet medical need.

ACT has been able to generate sheets of corneal endothelial cells and from human embryonic stem cells. These endothelial sheets, which resemble fetal cornea in cell density, could serve as the transplanted tissue in DSEK. In culture, our corneal endothelial cells have all the hallmarks, both marker expression and morphology, of native human corneal endothelium. We are testing these cells in several animal models of corneal diseases. The Company will continue its preclinical investigation in animal models, establish that the transplanted tissue functions correctly in the animals, and then consider preparation of an IND and/or IMPD application to commence clinical studies with these cells.

(v) Neuroprotective Biologics

In the course of our work with various progenitor cells for treating ocular degenerative diseases, we have discovered that certain progenitor cells not only have the ability to participate directly in the formation of new tissue in the eye, but also were able to exert a neuroprotective effect that reduces the rate of degeneration of native photoreceptors in the animals' eyes as an example even when injected outside the eye. These cells appeared to also be a source of neuroprotective paracrine factors; biological agents which may themselves be useful as drugs. Further, we observed that these protective effects were uniquely produced by particular progenitor cell sub-types. The restriction of this protective activity to only a certain progenitor cell type permits us to examine which factors are differentially produced by these cells as compared with other closely related progenitor cells which do not seem to secrete any protective agents. We anticipate that the neuroprotective agent(s) that we may ultimately develop as drug candidates may be useful not only in retinal diseases and dystrophies, but may have broader applications in central nervous system and peripheral nervous system diseases and disorders, including diseases causing cognitive function impairment, movement disorders such as Parkinson's Disease, and ischemic events such as caused by stroke.

Autoimmune/Inflammation Programs

Mesenchymal stem cells (MSCs) regulate immune and inflammatory responses, providing therapeutic potential for treating diseases characterized by the presence of an inflammatory component, which makes them an attractive tool for the cellular treatment of autoimmunity and inflammation. Their underlying molecular mechanisms of action together with their clinical benefit — for example, in autoimmunity — are in the opinion of the Company being revealed by an increasing number of clinical trials and preclinical studies of MSCs. The immunosuppressive activity of these cells allows MSCs to be transplanted nearly universally without matching between donors and recipients. MSCs universality, along with the ability to manufacture and store these cells long-term, present a unique opportunity to

produce an "off-the-shelf" cellular drug ready for treatment of diseases in both acute and chronic settings. Animal and human data would seem to support MSCs as a promising therapeutic approach for treating a wide range of autoimmune and inflammatory disorders, and are in fact being tested in more than 200 registered clinical trials worldwide.

The current source of MSCs for therapeutic applications are isolated from cord blood and adult sources such as bone marrow and adipose (fat) tissue. However, once isolated from the body (or cord blood), the MSCs present in these sources do not propagate well in cell culture. Rather, the cells undergo replicative senescence within only a few passages. Accordingly, there is a limit on the number of doses of MSCs that can be generated from each donor, and the process using adult MSC sources is consequently at risk being high touch with respect to both manufacturing and regulatory compliance, and limited in scalability due to the constraints on the cost and number of donors required for a commercial product.

We set out to, and believe we have succeeded at, creating a differentiated MSC product by producing the cells in culture from a pluripotent stem cell source, i.e., both hESC and iPS lines as the originating cells. The Company's cell culture process permits us to manufacture large scale quantities of MSC from a renewable stem cell source, eliminating the sourcing issues attendant with relying on adult sources of these cells. The stem-cell-sourced manufacturing process is scalable for global commercialization of MSC therapies, and should prove to be less costly (particularly at commercial scale) when compared to the adult sourced and cord blood sourced MSC products in development by other companies.

In our preliminary testing of our stem cell-derived MSCs in animal models of autoimmune disease, we have noted another differentiating feature to our cells. The MSCs generated using the Company's proprietary manufacturing approach seem to be substantially more potent with respect to suppressing autoimmune responses in certain diseases models when compared to the equivalent dose of bone marrow MSCs. The potency was dependent on the number of passages in culture our MSCs had been through, with the earlier passage MSCs retaining the greatest potency. This correlates with reports in the literature which suggest that adult MSCs lose potency as they are propagated in culture, and reports indicating that MSC from young adult donors are more potent than MSC from elderly donors. Being derived from embryonic stem cells, the early passage MSCs the Company is testing for potential therapeutic uses seem to represent the earliest and most potent stage of biological development for MSCs; a stage that cannot be obtained from adult sources.

We will continue to test our MSCs in many different animal models of autoimmune and inflammatory diseases in order to assess appropriate clinical utilities for this asset.

Platelet Program

Platelets are key elements in maintaining blood vessel integrity – or hemostasis – and so are central to wound healing and tissue regeneration after injury or surgery. Platelets are a mainstay in treating trauma, and are increasingly being used to promote healing from a wide range of surgeries. When platelet levels go down and result in thrombocytopenia, such as when bone marrow is destroyed or suppressed, the decrease in platelet function is often the leading cause of morbidity.

Platelets are far and away the most difficult of the blood product to maintain. They cannot be frozen or refrigerated. Instead, they must be stored at room temperature which limits the shelf life of platelets to five to seven days both because of loss of activity and risk of bacterial contamination during storage. It is the Company's belief that the practical use of platelets is limited by availability. Our estimates are that, but for limitations on donated platelet supplies, there would be a demand for a substantial number of additional units of platelets each year beyond the current platelet usage, particularly for expanded use in surgical settings such as joint replacement or to prevent scarring, as well as a potential demand for use in the cosmetic market.

The Company has developed a manufacturing process for generating megakaryocytes, proplatelet forming cells and ultimately platelets using either hES or iPS cells as the starting materials. This process can be carried out under GMP

conditions, and we are approaching the ability to produce clinical doses of platelets. ACT has also solved an important problem in this process, in that we have developed a feeder free process for making platelets from start to finish. This means our process may be portable into a continuous flow bioreactor setting.

Overall, we observe that the platelets made by our stem cell process have ultrastructural and morphological features that are indistinguishable from normal blood platelets. Our platelets function appropriately as well – both in vitro and in vivo. They respond to thrombin stimulation, form microaggregates, and facilitate clot formation and retraction. In animal models of injury, our stem cell derived platelets contribute to developing thrombi at sites of vascular injury. With our in vitro and in vivo data in hand, a clinical scale GMP manufacturing process in place and potential paths to large scale manufacturing of platelets in bioreactor settings, we are now working towards filing an IND for what we expect will be the first-in-man trial using stem cell derived platelets, and perhaps even the first iPS-derived cell therapy product in human trials.

Being able to control platelet manufacturing could also open up opportunities to improve storage, fine tune platelets for use in wound healing applications, as well as to engineer new roles for platelets beyond traditional involvement in wound healing. The Company intends to explore whether the culture conditions under which the platelets are formed could be manipulated so as generate platelets that could be refrigerated, frozen or perhaps even lyophilized (freeze-dried). Controlling the generation of platelets in culture creates opportunities to engineer platelets for drug delivery or to include imaging agents.

Our Intellectual Property

Our research and development is supported by a broad intellectual property portfolio, including patents and trade secrets. We currently own or have exclusive licenses to 37 patents and over 190 patent applications pending worldwide in the field of regenerative medicine and stem cell therapy. In the past three years, the United States Patent and Trademark office, and other patent offices in major market countries, have granted several of our patents covering the methods we use to derive and produce our RPE cell therapy, as well as patents that cover the use of the RPE cells for formulating pharmaceutical preparations for use in human patients and for treating various macular degenerative diseases such as dry AMD and SMD.

Our success will likely depend upon our ability to preserve our proprietary technologies as well as operate without infringing the proprietary rights of other parties. However, we may also need to rely on certain proprietary technologies and know-how that are not patentable. With regard to our own proprietary information, we seek to protect such information, in part, by the use of confidentiality agreements with our employees, consultants and certain of our contractors.

We maintain a disciplined patent policy and, when appropriate, seek patent protection for inventions in our core technologies and in ancillary technologies that support our core technologies, or which we otherwise believe will provide us with a competitive advantage. We pursue this strategy by filing patent applications for discoveries we make, either alone or in collaboration with scientific collaborators and strategic partners. Typically, although not always, we file patent applications both in the United States and in select international markets. In addition, we sometimes obtain licenses or options, if available, to acquire licenses to patent filings from other individuals and organizations that we anticipate could be useful in advancing our research, development and commercialization initiatives and our strategic business interests.

The following table identifies issued patents we own or license that we believe currently support our products and technology platform.

PATENTS OWNED BY ADVANCED CELL TECHNOLOGY, INC.

Patent Number	Country	Filing Date	Issue Date	Expiration Date*	Title
7838727	United States	11/4/2005	11/23/2010	3/29/2026	DERIVATION OF EMBRYONIC STEM CELLS
7893315	United States	5/3/2007	2/22/2011	11/4/2025	DERIVATION OF EMBRYONIC STEM CELLS AND EMBRYONIC-DERIVED CELLS

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7736896	United States	7/20/2005	6/15/2010	1/11/2026	MODALITIES FOR THE TREATMENT OF DEGENERATIVE DISEASES OF THE RETINA
2005325753	Australia	7/20/2005	7/19/2012	1/24/2025	MODALITIES FOR THE TREATMENT OF DEGENERATIVE DISEASES OF THE RETINA
160507	Israel	8/26/2002	2/1/2012	8/26/2022	MESODERMAL LINEAGE CELLS AND METHOD OF DERIVATION OF SAME
516236	New Zealand	6/30/2000	4/7/2005	6/30/2020	CYTOPLASMIC TRANSFER TO DE-DIFFERENTIATE RECIPIENT CELLS
2002322522	Australia	7/18/2002	5/17/2010	7/18/2022	METHODS AND COMPOSITIONS FOR CELL THERAPY
6808704	United States	9/6/2000	10/26/2004	2/18/2021	METHOD FOR GENERATING IMMUNE-COMPATIBLE CELLS AND TISSUES USING NUCLEAR TRANSFER TECHNIQUES
783162	Australia	9/6/2000	1/12/2006	9/6/2020	METHOD FOR GENERATING IMMUNE-COMPATIBLE CELLS AND TISSUES USING NUCLEAR TRANSFER TECHNIQUES
265679	Mexico	9/6/2000	4/3/2009	9/6/2020	METHOD FOR GENERATING IMMUNE-COMPATIBLE CELLS AND TISSUES USING NUCLEAR TRANSFER TECHNIQUES
536786	New Zealand	11/24/2004	1/11/2007	9/6/2020	METHOD FOR GENERATING IMMUNE-COMPATIBLE CELLS AND TISSUES USING NUCLEAR TRANSFER TECHNIQUES
782385	Australia	10/13/2000	11/3/2005	10/13/2020	METHODS OF PRODUCING DIFFENTIATED PROGENITOR CELLS AND LINEAGE-DEFECTIVE EMBRYONIC STEM CELLS

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518191	New Zealand	10/13/2000	5/10/2004	10/13/2020	METHODS OF PRODUCING DIFFENTIATED PROGENITOR CELLS AND LINEAGE-DEFECTIVE EMBRYONIC STEM CELLS
531844	New Zealand	9/6/2000	12/8/2005	9/6/2020	TELOMERE RESTORATION AND EXTENSION OF CELL LIFE-SPAN IN ANIMALS CLONED FROM SENESCENT SOMATIC CELLS
7910369	United States	8/24/2005	3/22/2011	10/10/2025	NOVEL CULTURE SYSTEMS FOR EX VIVO DEVELOPMENT
2005205516	Australia	1/3/2005	3/31/2011	1/3/2025	NOVEL CULTURE SYSTEMS FOR EX VIVO DEVELOPMENT
176641	Israel	1/3/2005	11/30/2010	1/3/2025	METHOD OF CULTURING MAMMALIAN PLURIPOTENT STEM CELLS
548623	New Zealand	1/3/2005	8/12/2010	1/3/2025	NOVEL CULTURE SYSTEMS FOR EX VIVO DEVELOPMENT
7621606	United States	8/27/2002	11/24/2009	8/27/2022	TRANS-DIFFERENTIATION AND RE-DIFFERENTIATION OF SOMATIC CELLS AND PRODUCTION OF CELLS FOR CELL THERAPIES
7794704	United States	1/24/2005	9/14/2010	1/11/2026	METHODS FOR PRODUCING ENRICHED POPULATIONS OF HUMAN RETINAL PIGMENT EPITHELIUM CELLS FOR TREATMENT OF RETINAL DEGENERATION
7795025	United States	7/21/2006	9/14/2010	1/11/2026	METHODS FOR PRODUCING ENRICHED POPULATIONS OF HUMAN RETINAL PIGMENT EPITHELIUM CELLS
8268303	United States	8/17/2010	9/18/2012	1/24/2025	METHODS FOR PRODUCING ENRICHED POPULATIONS OF HUMAN RETINAL PIGMENT EPITHELIUM CELLS FOR TREATMENT OF RETINAL DEGENERATION
2005207042	Australia	1/24/2005	12/23/2010	1/24/2025	MODALITIES FOR THE TREATMEANT OF DEGENERATIVE DISEASES OF THE RETINA

ZL200580007359.0	China	1/24/2005	6/29/2011	1/24/2025	MODALITIES FOR THE TREATMEANT OF DEGENERATIVE DISEASES OF THE RETINA
287357	Mexico	1/24/2005	6/9/2011	1/24/2025	MODALITIES FOR THE TREATMEANT OF DEGENERATIVE DISEASES OF THE RETINA
548929	New Zealand	1/24/2005	2/25/2011	1/24/2025	MODALITIES FOR THE TREATMEANT OF DEGENERATIVE DISEASES OF THE RETINA
7696404	United States	12/27/2002	4/13/2010	11/29/2020	EMBRYONIC OR STEM-LIKE CELL LINES PRODUCED BY CROSS SPECIES NUCLEAR TRANSPLANTATION
519347	New Zealand	12/20/2000	11/11/2004	12/20/2020	METHOD TO PRODUCE CLONED EMBRYOS AND ADULTS FROM CULTURED CELLS
8017393	United States	4/13/2007	9/13/2011	7/29/2029	HEMANGIO-COLONY FORMING CELLS
572842	New Zealand	4/13/2007	5/7/2012	4/13/2027	HEMANGIO-COLONY FORMING CELLS

OWNED BY ADVANCED CELL TECHNOLOGY, INC.'S WHOLLY-OWNED SUBSIDIARY MYTOGEN, INC.

Patent Number	Country	Filing Date	Issue Date	Expiration Date*	Title
6432711	United States	11/1/1994	8/13/2002	8/13/2019	EMBRYONIC STEM CELLS CAPABLE OF DIFFERENTIATING INTO DESIRED CELL LINES

UNIVERSITY OF MASSACHUSETTS EXCLUSIVE LICENSE TO ADVANCED CELL TECHNOLOGY, INC.

Patent Number	Country	Filing Date	Issue Date	Expiration Date*	Title
7951591	United States	2/27/2003	5/31/2011	7/31/2022	GYNOGENETIC OR ANDROGENETIC PRODUCTION OF PLURIPOTENT CELLS AND CELL LINES, AND USE THEREOF TO PRODUCE DIFFERENTIATED CELLS AND TISSUES

8273571	United States	5/27/2011	9/25/2012	10/27/2020	GYNOGENETIC OR ANDROGENETIC PRODUCTION OF PLURIPOTENT CELLS AND CELL LINES, AND USE THEREOF TO PRODUCE DIFFERENTIATED CELLS AND TISSUES
782846	Australia	10/27/2000	12/15/2005	10/27/2020	GYNOGENETIC OR ANDROGENETIC PRODUCTION OF PLURIPOTENT CELLS AND CELL LINES, AND USE THEREOF TO PRODUCE DIFFERENTIATED CELLS AND TISSUES
ZL00816098.8	China	10/27/2000	2/6/2009	10/27/2020	GYNOGENETIC OR ANDROGENETIC PRODUCTION OF PLURIPOTENT CELLS AND CELL LINES, AND USE THEREOF TO PRODUCE DIFFERENTIATED CELLS AND TISSUES
149175	Israel	10/27/2000	3/31/2011	10/27/2020	GYNOGENETIC OR ANDROGENETIC PRODUCTION OF PLURIPOTENT CELLS AND CELL LINES, AND USE THEREOF TO PRODUCE DIFFERENTIATED CELLS AND TISSUES
518365	New Zealand	10/27/2000	8/12/2004	10/27/2020	GYNOGENETIC OR ANDROGENETIC PRODUCTION OF PLURIPOTENT CELLS AND CELL LINES, AND USE THEREOF TO PRODUCE DIFFERENTIATED CELLS AND TISSUES

* Actual patent expiration dates may differ from the dates listed herein including due to patent term adjustments pursuant to 35 U.S.C. § 154(b) and 37 C.F.R. §§ 1.702-1.705.

The fundamental consequence of patent expiration is that the invention covered by that patent will enter the public domain. However, the expiration of patent protection, or anticipated patent protection, for the bulk of our portfolio is not scheduled to begin for approximately ten to fifteen years. In some instances, the Company believes that patent term extensions and adjustments, or other forms of exclusivity dependent on the Company's patent rights, may be available in particular instances, such as by operation of patent and/or regulatory laws and regulations. Due to the rapid pace of technology development in this field, and the volume of intellectual property we anticipate will be generated over the next decade, it is unlikely that the expiration of any existing patents or patent rights would have an adverse effect on our business. In addition, we continue to file new patent applications as refinements to our products are made and clinical results are generated. Any actual products that we develop are expected to be supported by intellectual property covered by granted patents or current patent applications that, if granted, would not expire for 20 years from the date first filed. For example, the granted United States patents covering our RPE cell therapy product do not begin to expire until 2025 at the earliest, and then only if no patent term extensions are provided. As we have made improvements to our RPE program, particularly arising from the translation of the cell therapy into a human patient treatment setting, we have diligently filed on those improvements. These additional patent filings may prove to be significant barriers to entry for third parties wishing to compete, and would extend the patent portfolio well into the 2030's. Due to the early stage of our business, we differ from, for example, the pharmaceutical industry where the loss of a key significant patent can result in contemporaneous loss of products, programs or revenues. As our table demonstrates, our business is at the front end of the patent protection spectrum and is not expected to be

significantly impacted in the near term by expiration of existing patents or patents issued in response to existing applications.

Research and License Agreements

Collaborative Agreements

On June 21, 2011, we entered into a definitive collaborative agreement with Roslin Cells LTD ("Roslin Cells") of Scotland. We will work together to establish a bank of Good Manufacturing Practice (GMP)-grade human embryonic stem cell (hESC) lines using our patented, proprietary "single-cell blastomere" technique for deriving hESC lines without destroying embryos. Stem cell lines from the resulting bank will be made available for both research and commercial purposes. Our agreement with Roslin Cells is intended to address a number of practical and ethical issues facing the field, and should make it easier for researchers to explore the enormous potential of this exciting science for the future benefit of patients.

Under the terms of the agreement, the hESC lines will be created and banked in compliance with the regulations of both the US Food and Drug Administration (FDA) and the European Medicines Agency (EMA). Roslin Cells will be responsible for maintaining the banked hESC lines, and it is anticipated that the banked hESC lines can be ushered expeditiously from laboratory settings directly into clinical programs, thereby speeding translational research. Roslin Cells will promote access to the hESC lines to both academic and commercial entities, and will establish a straightforward license which should enable third parties to have a predictable path to commercialization, at the time they choose to use the cells for discovery and preclinical research. We will continue to control any licenses to commercialization of products for the eye. We will share proceeds from these licenses, including milestone and royalty payments with Roslin Cells.

Licenses of Intellectual Property to Us

The following summarizes technology licensed to us. None of our technology that we use in our current clinical programs use any licensed technology.

Stem Cell & Regenerative Medicine International (SCRMI). – On July 21, 2011, as described in greater detail below, the Company entered into an agreement with SCRMI and CHA Bio & Diostech Co, Ltd. ("CHA Biotech") under which SCRMI exclusively licensed ACT the rights to SCRMI's hemangioblast program for North America (United States and Canada). The Exclusive License was part of a restructuring of SCRMI, a joint venture formed between ACT and CHA Biotech.

StemLifeLine, Inc. – On May 4, 2012, we entered into an exclusive license agreement with StemLifeLine, Inc. for certain human stem cell lines that were created without destroying the donor embryo. We have agreed to pay $65,000 to StemLifeLine in upfront fees under the license. We have agreed to pay the first $200,000 in revenue that we receive under our agreement with Roslin Cells or any other stem cell bank entity for sale or licensing of the stem cell lines, and 20% of any such revenue, thereafter.

UMass License – On April 1, 2003 and April 16, 1996, we entered into exclusive license agreements (indefinite license period) with the University of Massachusetts. The 1996 Agreement has been amended by amendments dated September 1, 1997, May 31, 2000 and September 19, 2002. Pursuant to these agreements, the University of Massachusetts, referred to as UMass, exclusively licensed to us certain biological materials, patent rights and related technology for commercialization in specified fields. The license agreements require us to use diligent efforts to develop licensed products and licensed services and require us to pay certain royalties, minimum annual royalties, milestone payments and sublicense income to UMass. UMass received 73,263 shares of our common stock as partial consideration of the license granted. In 2008, we fell behind on our payments of all UMass license fees and as such faced termination of the UMass license agreements. In April 27, 2011, we executed an Amendment of Exclusive

License Agreements with UMass under which the outstanding license payments were brought current through payment to UMass of cash and stock. As part of the amendment, UMass agreed that the underlying exclusive license to the Company was considered to be in continual full force and effect since its original execution date.

2003 License – Under the 2003 license, UMass licenses to us certain patent rights relating to the cloning of non-human animals for use in connection with the development, manufacture and sale of products and services in the field of non-human animals for agriculture, companion animals, research and diagnostic products, non-human and human therapeutics, and neutraceuticals, except production of immunoglobulin in the blood of *Bos taurus* and *Bos indicus*. We are required to pay royalties to UMass ranging from 1.5% to 2.0% based on the covered product or service. We agreed to pay minimum royalty payments of $15,000 on the first and second anniversary of the agreement, $20,000 on the third anniversary, $25,000 on the fourth anniversary, and increasing to $45,000 on the fifth anniversary and for each year thereafter. We also agreed to make milestone payments to UMass of up to $1,630,000 upon the achievement of various development and commercialization milestones. Finally, we have agreed to pay UMass 18% of all sublicense income.

1996 License – The 1996 license covers certain patent rights, biological materials and know-how related to the cloning of non-human animals and cells for use in cell fields except the production of immunoglobulin in the blood of *Bos taurus* and *Bos indicus*. We are required to pay royalties ranging from 2.5% to 4.5% on net sales of products and services covered by the license, and minimum royalty payments in the amount of $15,000 per year (beginning on the later of the fourth year after the effective date of the agreement or the completion of certain clinical trials) for net sales on products and services for use in human therapeutics, and $30,000 per year (beginning in the third year after the effective date of the agreement) for net sales on products and services for all uses other than in human therapeutics. UMass agreed to waive minimum royalty payments during any calendar year in which we fund research at UMass in the aggregate amount of $300,000. There are no milestone payments. We agreed to pay UMass 18% of all sublicense income except for equity. With respect to equity, we are required to pay UMass an amount equal to 10% of the total equity we receive for any transfer of rights under the 1996 license.

Both the 2003 agreement and the 1996 agreement, as amended, remain in effect until all issued patents within the patent rights licensed under the agreement have expired, or for a period ten years after the effective date of the agreement if no patents have issued within that ten-year period. Each party has the right to terminate the agreement upon the occurrence of a material uncured breach. We also have the right to terminate at any time for any reason with ninety days' written notice.

Wake Forest License – On January 26, 2001, we entered into a materials and research data license agreement with Wake Forest University (indefinite license period), pursuant to which WFU granted to us a worldwide, exclusive, royalty-free, perpetual and irrevocable right and license to use certain data and stem cells and stem cell cultures created by us from biological materials provided by WFU to us for specified purposes only. The agreement allows us to utilize certain primate skin cells and ovary materials produced by WFU and transferred to us pursuant to an agreement relating to the transfer of biological materials. There are no milestone payments. There are no royalty requirements unless we desire to negotiate a commercial license for use of the biological materials provided to us by WFU. WFU received 60,000 shares of common stock of ACT Group, Inc., a now dissolved Delaware corporation referred to hereinafter as ACT Group. We have agreed to provide WFU samples of stem cells for WFU's research, education and teaching purposes and we have a first option to obtain an exclusive license to any intellectual property rights claimed by WFU in connection with the use of such stem cells. The term of the license granted is perpetual and irrevocable absent a breach by us.

GenVec Agreement – On December 28, 2005, Mytogen and GenVec, Inc. entered into a patent assignment and security agreement (indefinite period). Under the agreement, as amended on July 31, 2007, GenVec assigned certain agreements and intellectual property to Mytogen, and retained a royalty-free non-exclusive license, with the right to grant sublicenses, to practice the intellectual property in connection with products, processes or services developed or provided by GenVec other than autologous and allogenic skeletal myoblasts for cardiac therapy. Under the original agreement, Mytogen granted a security interest in the assigned intellectual property, but the security interest was

released in the amendment to the agreement. Under the agreement, as amended, Mytogen must use commercially reasonable efforts to commercialize the assigned intellectual property, including by spending specified amounts in support of research and development in support of such commercialization; Mytogen must pay GenVec one-half of the first milestone payment (anticipated to be two million U.S. dollars) received by Mytogen under the Terumo Agreement; and Mytogen must also pay GenVec four percent (4%) of the net sales revenue from sales or other provision of products, processes or services covered by the agreement.

Exclusive Licenses of Intellectual Property by Us

The following summarizes licenses from us to third parties.

Exeter Life Sciences License - On October 22, 2003, we entered into an exclusive license with Exeter Life Sciences, Inc. (indefinite license period), pursuant to which we exclusively licensed to Exeter certain technology and patent rights for use in the fields of agriculture, endangered species, companion animals and equine animals. The license also grants Exeter a right of first negotiation to any improvement patents that are obtained by us that relate to the licensed intellectual property or which are useful, necessary or required to develop or manufacture certain animals, cells or tissues within the defined fields of use.

Under the agreement, we license rights to certain patent rights and technology useful for the fields of use of non-human animals for agriculture, endangered animals and companion animals; excluding production of such animals for the primary purpose of producing human and non-human animal therapeutics and human healthcare products, including without limitation the production of biopharmaceutical agents in milk, such as proteins, peptides and polypeptides for pharmaceutical, neutraceutical or other use, and excluding the production of immunoglobulin in the blood of *Bos taurus* and *Bos indicus*.

International Stem Cell Corporation - On May 14, 2004, we entered into three license agreements (indefinite license periods) with International Stem Cell Corporation (ISCO), formerly known as PacGen Cellco, LLC; the licenses were subsequently amended in August 2005 and then amended and restated in February 2013. Pursuant to the 2013 Amended and Restated License Agreements, we licensed to ISCO, on an exclusive basis,patent rights which cover the generation of stem cells by either somatic cell nuclear transfer (SCNT) or parthenogenesis. The rights under the SCNT patents were granted for the manufacture and sale of human cells for cell therapy in the treatment of human diabetes and liver diseases. The grant under the parthenogenesis patent rights provides ISCO with a license under those patents only for manufacture and sale of human cells for cell therapy in the treatment of all human therapies. As part of the Amended and Restated Agreements, ISCO gave up rights under a non-exclusive license to certain Future Technologies granted under earlier versions of the agreements, including giving up all rights under ACT's patent filings directed to our RPE program and related technology.

Start Licensing License - On August 30, 2006, we entered into a Settlement and License Agreement with UMass and Start Licensing, Inc. (indefinite license period). See description of this agreement above. Pursuant to this agreement, we granted Start Licensing a worldwide, exclusive, fully paid-up and royalty-free license, with the right to grant sublicenses, to certain patent rights for use in connection with all uses and applications in non-human animals. The agreement was reached in connection with the settlement of the patent interference actions. The terms of the agreement also includes an initial payment to us, which has been made, and certain milestone payments. In addition, under the agreement, Start, Geron Corporation and Roslin Institute ("Roslin") each agree not to sue us under certain patent applications owned by Roslin.

Stem Cell & Regenerative Medicine International, Inc. – On December 1, 2008, the Company and CHA Bio & Diostech Co., Ltd. ("CHA"), a leading Korean-based biotechnology company focused on the development of stem cell technologies, formed an international joint venture. The new company, Stem Cell & Regenerative Medicine International, Inc. ("SCRMI"), will develop human blood cells and other clinical therapies based on our Hemangioblast Program. SCRMI has agreed to pay the Company fee of $500,000 for an exclusive, worldwide, license to the Hemangioblast Program (indefinite license period). On July 21, 2011, the Company and CHA entered into a binding term sheet to restructure certain aspects of SCRMI. Under the terms of the binding Term Sheet, SCRMI exclusively licensed the rights to the hemangioblast program to ACT for North America (United States and Canada) and to CHA Biotech for Korea and Japan. Further, under the terms of the agreement, ten (10) SCRMI scientists involved in

hemangioblast research have been reassigned to ACT. The ownership in SCMRI remains largely unchanged between ACT and CHA Biotech, with the joint venture ceasing internal research activity and transitioning to a licensing entity.

CHA – On March 31, 2009, we entered into a licensing agreement (indefinite license period) under which we have licensed our retinal pigment epithelium ("RPE") technology, for the treatment of diseases of the eye, to CHA for development and commercialization exclusively in Korea. We are eligible to receive up to $1.9 million in fees based upon achieving certain milestones, including us making an IND submission to the US FDA to commence clinical trials in humans using the technology, which we completed during the second half of 2009. We received an up-front fee of $250,000 and additional consideration under the agreement in the amount of $850,000. Under the terms of the agreement, CHA will incur all of the cost associated with RPE clinical trials in Korea.

CHA – On May 21, 2009, we entered into a licensing agreement (indefinite license period) under which we licensed our proprietary single blastomere technology, which has the potential to generate stable cell lines, including retinal pigment epithelium (RPE) cells for the treatment of diseases of the eye, to CHA for development and commercialization exclusively in Korea. We received a $300,000 up-front license fee, and received an additional $300,000 in December 2009. We believe there are some 200 different retinal diseases that may be impacted by this stem cell derived therapy including macular degeneration. Age-related macular degeneration (AMD) affects more than 30 million people worldwide and is the leading cause of blindness in people over 60 years of age in the United States (Source: Foundation For Fighting Blindness).

Embryome Sciences, Inc. – In 2008, we entered into three license agreements (indefinite license period) whereby we licensed to Embryome Sciences certain cell processing technologies, including the technology licensed from Kirin Beer. We received up-front payments of $470,000 and will receive royalties from future sales of product that utilizes the technologies from the licenses.

Nonexclusive Licenses of Intellectual Property by Us

We have entered into numerous nonexclusive license agreements pursuant to which we have granted non-exclusive rights to various parties to use certain patent rights in defined fields. These licenses generally provide for commercialization of our intellectual property and typically contain minimum royalties, milestones and continuing royalties based upon percentages of revenue.

Regulations

In addition to safety regulations enforced by the FDA, we are also subject to regulations under the Occupational Safety and Health Act, the Environmental Protection Act, the Toxic Substances Control Act and other present and potential future and federal, state, local, and foreign regulations.

Outside the United States, we will be subject to regulations that govern the import of drug products from the United States or other manufacturing sites and foreign regulatory requirements governing human clinical trials and marketing approval for our products. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursements vary widely from country to country.

The United States Congress, several states and foreign countries have considered legislation banning or restricting human application of ES cell-based and nuclear transfer based technologies. No assurance can be given regarding future restrictions or prohibitions that might affect our technology and business. In addition, we cannot assure you that future judicial rulings with respect to nuclear transfer technology or human ES cells will not have the effect of delaying, limiting or preventing the use of nuclear transfer technology or ES cell-based technology or delaying, limiting or preventing the sale, manufacture or use of products or services derived from nuclear transfer technology or ES cell-derived material. Any such legislative or judicial development would harm our ability to generate revenues and operate profitably.

For additional information about governmental regulations that will affect our planned and intended business operations, see “RISK FACTORS” beginning below.

Research and Development Expenditures

We spent the following amounts on company-sponsored research and development activities during each of the last three fiscal years:

Fiscal Year	Research and Development Expenditures
2010	$7,461,426
2011	$9,953,224
2012	$11,034,836

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Employees

As of February 4, 2013, we had 36 full-time employees, of whom 11 hold Ph.D. or M.D. degrees. Twenty-three employees are directly involved in research and development activities and 13 are engaged in business development and administration. We also use the services of numerous outside consultants in business and scientific matters. We believe that we have good relations with our employees and consultants.

Item 1A. Risk Factors.

An investment in the Company's common stock involves a high degree of risk. You should carefully consider the risks described below, including information in the section of this document entitled "Forward Looking Statements." The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties not presently known to us or that we currently believe are immaterial may also impair our business operations. If any of the following risks actually occur, our business, financial condition or results of operations could be materially adversely affected, the value of our common stock could decline, and you may lose all or part of your investment.

Risks Relating to the Company's Early Stage of Development

Our business is at an early stage of development and we may not develop therapeutic products that can be commercialized.

We do not yet have any product candidates in late-stage clinical trials or in the marketplace. Our potential therapeutic products will require extensive preclinical and clinical testing prior to regulatory approval in the United States and other countries. We may not be able to obtain regulatory approvals in some cases (see REGULATORY RISKS), or even be permitted to enter or continue clinical trials, for some of our products, or commercialize any products. Our therapeutic and product candidates may prove to have undesirable and unintended side effects or other characteristics adversely affecting their safety, efficacy or cost-effectiveness that could prevent or limit their use and commercialization. Any product using any of our technology may fail to provide the intended therapeutic benefits, or even achieve therapeutic benefits equal to or better than the standard of treatment at the time of testing or production. In addition, we will need to determine whether any of our potential products can be manufactured in commercial quantities or at an acceptable cost. Our efforts may not result in a product that can be or will be marketed successfully. Physicians may not prescribe our products, and patients or third party payors may not accept our products. For these reasons we may not be able to generate revenues from commercial production.

We have limited clinical testing, regulatory, manufacturing, marketing, distribution and sales capabilities which may limit our ability to generate revenues.

Due to the relatively early stage of our therapeutic products, regenerative medical therapies and stem cell therapy-based programs, we have not yet invested significantly in regulatory, manufacturing, marketing, distribution or product sales resources. We cannot assure you that we will be able to invest or develop any of these resources successfully or as expediently as necessary. The inability to do so may inhibit or harm our ability to generate revenues or operate profitably.

We have a history of operating losses and we may not achieve future revenues or operating profits.

We have generated modest revenue to date from our operations. Historically we have had net operating losses each year since our inception. As of December 31, 2012, we have an accumulated deficit of $282,311,386 and a stockholders' deficit of $21,858,761. We incurred net losses of $28,526,261, $72,795,119 and $54,373,332 for the years ended December 31, 2012, 2011 and 2010, respectively. We have limited current potential sources of income from licensing fees and the Company does not generate significant revenue outside of licensing non-core technologies. Additionally, even if we are able to commercialize our technologies or any products or services related to our technologies it is not certain that they will result in revenue or profitability.

We have a limited operating history on which investors may evaluate our operations and prospects for profitable operations.

If we continue to suffer losses as we have in the past, investors may not receive any return on their investment and perhaps their entire investment. Our prospects must be considered speculative in light of the risks, expenses and difficulties frequently encountered by companies in their early stages of development, particularly in light of the uncertainties relating to the new, competitive and rapidly evolving markets in which we anticipate we will operate. To attempt to address these risks, we must, among other things, further develop our technologies, products and services, successfully implement our research, development, marketing and commercialization strategies, respond to competitive developments and attract, retain and motivate qualified personnel. A substantial risk is involved in investing in us because, as an early stage company, we have fewer resources than an established company, our management may be more likely to make mistakes at such an early stage, and we may be more vulnerable operationally and financially to any mistakes that may be made, as well as to external factors beyond our control.

Risks Relating to Technology

We are dependent on new and unproven technologies.

Our risks as an early stage company are compounded by our heavy dependence on emerging and sometimes unproven technologies. If these technologies do not produce satisfactory results, our business may be harmed. Additionally some of our technologies and significant potential revenue sources involve ethically sensitive and controversial issues which could become the subject of legislation or regulations that could materially restrict our operations and, therefore, harm our financial condition, operating results and prospects for bringing our investors a return on their investment.

Over the last two years we have narrowed our potential product pool to focusing on our Retinal Program as well as the applications of our iPS technology, which will limit our revenue sources.

Our human embryonic stem cell program includes research, preclinical and clinical products including two U.S. and one European phase I trials using our RPE cells; our myoblast program has received FDA clearance to proceed to Phase II human clinical trials; our blood and immune therapy programs are in the preclinical development stages, and the Company doesn't foresee having a commercial product until clinical trials are completed. We have identified the programs that we are working to get into the clinical testing phase. We have narrowed the scope of our developmental focus to our Retinal Program and other ocular therapies, and developing products in the blood component and immune therapies. As a result of our narrower product focus we have fewer revenue sources. Our emphasis on fewer programs may hinder our business if these programs are not successful. As a result of our emphasis on our eye programs and our

blood and immune therapy programs, our ability to progress as a company is more significantly hinged on the success of fewer programs and thus, a setback or adverse development relating to any one of them could potentially have a significant impact on share price as well as an inhibitory effect on our ability to raise additional capital. We cannot guarantee that we will be able to successfully develop our therapeutic programs, or of our cell platform technologies such as single blastomere, embryonic stem cell or iPS cells or that such development will result in products or services with any significant commercial utility. We anticipate that the commercial sale of such products or services, and royalty/licensing fees related to our technology, would be our primary sources of revenues. If we are unable to develop our technologies, investors will likely lose their entire investment in us.

We may not be able to commercially develop our technologies and proposed product lines, which, in turn, would significantly harm our ability to earn revenues and result in a loss of investment.

Our ability to commercially develop our technologies will be dictated in large part by forces outside our control which cannot be predicted, including, but not limited to, general economic conditions, the success of our research and pre-clinical and field testing, the availability of collaborative partners to finance our work in pursuing applications of cell therapy technologies and technological or other developments in the biomedical field which, due to efficiencies, technological breakthroughs or greater acceptance in the biomedical industry, may render one or more areas of commercialization more attractive, obsolete or competitively unattractive. It is possible that one or more areas of commercialization will not be pursued at all if a collaborative partner or entity willing to fund research and development cannot be located. Our decisions regarding the ultimate products and/or services we pursue could have a significant adverse effect on our ability to earn revenue if we misinterpret trends, underestimate development costs and/or pursue wrong products or services. Any of these factors either alone or in concert could materially harm our ability to earn revenues or could result in a loss of any investment in us.

If we are unable to keep up with rapid technological changes in our field or compete effectively, we will be unable to operate profitably.

We are engaged in activities in the biotechnology field, which is characterized by extensive research efforts and rapid technological progress. If we fail to anticipate or respond adequately to technological developments, our ability to operate profitably could suffer. We cannot assure you that research and discoveries by other biotechnology, agricultural, pharmaceutical or other companies will not render our technologies or potential products or services uneconomical or result in products superior to those we develop or that any technologies, products or services we develop will be preferred to any existing or newly-developed technologies, products or services.

Risks Related to Intellectual Property

Certain aspects of our business are highly dependent upon maintaining licenses with respect to key technology.

Several of the patents we utilize are licensed to us by third parties. These licenses are subject to termination under certain circumstances (including, for example, our failure to make minimum royalty payments or to timely achieve spending, development and commercialization benchmarks). The loss of any of such licenses, or the conversion of such licenses to non-exclusive licenses, could harm our operations and/or enhance the prospects of our competitors.

Certain of these licenses also contain restrictions, such as limitations on our ability to grant sublicenses that could materially interfere with our ability to generate revenue through the licensing or sale to third parties of important and valuable technologies that we have, for strategic reasons, elected not to pursue directly. The possibility exists that in the future we will require further licenses to complete and/or commercialize our proposed products. We cannot assure you that we will be able to acquire any such licenses on a commercially viable basis.

Certain parts of our technology are not protectable by patent.

Certain parts of our know-how and technology are not patentable. To protect our proprietary position in such know-how and technology, we require all employees, consultants, advisors and collaborators to enter into confidentiality and invention ownership agreements with us. We cannot assure you, however, that these agreements will provide meaningful protection for our trade secrets, know-how or other proprietary information in the event of any unauthorized use or disclosure. Further, in the absence of patent protection, competitors who independently develop substantially equivalent technology may harm our business.

Patent litigation presents an ongoing threat to our business with respect to both outcomes and costs.

We have previously been involved in patent interference litigation, and it is possible that further litigation over patent matters with one or more competitors could arise. We could incur substantial litigation or interference costs in defending ourselves against suits brought against us or in suits in which we may assert our patents against others. If the outcome of any such litigation is unfavorable, our business could be materially adversely affected. To determine the priority of inventions, we may also have to participate in interference proceedings declared by the United States Patent and Trademark Office, which could result in substantial cost to us. Without additional capital, we may not have the resources to adequately defend or pursue this litigation.

We may not be able to protect our proprietary technology, which could harm our ability to operate profitably.

The biotechnology and pharmaceutical industries place considerable importance on obtaining patent and trade secret protection for new technologies, products and processes. Our success will depend, to a substantial degree, on our ability to obtain and enforce patent protection for our products, preserve any trade secrets and operate without infringing the proprietary rights of others. We cannot assure you that:

- we will succeed in obtaining any patents in a timely manner or at all, or that the breadth or degree of protection of any such patents will protect our interests;
- the use of our technology will not infringe on the proprietary rights of others;
- patent applications relating to our potential products or technologies will result in the issuance of any patents or that, if issued, such patents will afford adequate protection to us or not be challenged invalidated or infringed;

- patents will not issue to other parties, which may be infringed by our potential products or technologies; and

- we will continue to have the financial resources necessary to prosecute our existing patent applications, pay maintenance fees on patents and patent applications, or file patent applications on new inventions.

We are aware of certain patents that have been granted to others and certain patent applications that have been filed by others with respect to iPS cells and embryonic stem cells, and other stem cell technologies. The fields in which we operate have been characterized by significant efforts by competitors to establish dominant or blocking patent rights to gain a competitive advantage, and by considerable differences of opinion as to the value and legal legitimacy of competitors' purported patent rights and the technologies they actually utilize in their businesses.

Patents obtained by other persons may result in infringement claims against us that are costly to defend and which may limit our ability to use the disputed technologies and prevent us from pursuing research and development or commercialization of potential products.

A number of other pharmaceutical, biotechnology and other companies, universities and research institutions have filed patent applications or have been issued patents relating to cell therapies, stem cells, and other technologies potentially relevant to or required by our expected products. We cannot predict which, if any, of such applications will issue as patents or the claims that might be allowed. We are aware that a number of companies have filed applications relating to the generation, formulation and uses of various stem cells. We are also aware of a number of patent applications and patents claiming use of stem cells and other modified cells to treat disease, disorder or injury.

If third party patents or patent applications contain claims infringed by either our licensed technology or other technology required to make and use our potential products and such claims are ultimately determined to be valid, there can be no assurance that we would be able to obtain licenses to these patents at a reasonable cost, if at all, or be able to develop or obtain alternative technology. If we are unable to obtain such licenses at a reasonable cost, we may not be able to develop some products commercially. We may be required to defend ourselves in court against allegations of infringement of third party patents. Patent litigation is very expensive and could consume substantial resources and create significant uncertainties. An adverse outcome in such a suit could subject us to significant liabilities to third parties, require disputed rights to be licensed from third parties, or require us to cease using such technology.

We may not be able to remain in compliance with some of our license agreements.

Maintaining certain of our license agreements (for in-licensed technology) requires that we pay annual maintenance fees and/or meet particular development or spending milestones. If we are unable to be in compliance with our license

agreements, the license may be terminated and our business may be harmed.

We may not be able to adequately defend against piracy of intellectual property in foreign jurisdictions.

Considerable research in the areas of stem cells, cell therapeutics and regenerative medicine is being performed in countries outside of the United States, and a number of potential competitors are located in these countries. The laws protecting intellectual property in some of those countries may not provide adequate protection to prevent our competitors from misappropriating our intellectual property. Several of these potential competitors may be further along in the process of product development and also operate large, company-funded research and development programs. As a result, our competitors may develop more competitive or affordable products, or achieve earlier patent protection or product commercialization than we are able to achieve. Competitive products may render any products or product candidates that we develop obsolete.

Regulatory Risks

We cannot market our product candidates until we receive regulatory approval.

We must comply with extensive government regulations in order to obtain and maintain marketing approval for our products in the United States and abroad. The process of obtaining regulatory approval is lengthy, expensive and uncertain. In the United States, the FDA imposes substantial requirements on the introduction of biological products and many medical devices through lengthy and detailed laboratory and clinical testing procedures, sampling activities and other costly and time-consuming procedures. Satisfaction of these requirements typically takes several years and the time required to do so may vary substantially based upon the type and complexity of the biological product or medical device.

In addition, product candidates that we believe should be classified as medical devices for purposes of the FDA regulatory pathway may be determined by the FDA to be biologic products subject to the satisfaction of significantly more stringent requirements for FDA approval. Any difficulties that we encounter in obtaining regulatory approval may have a substantial adverse impact on our business and cause our stock price to significantly decline.

We cannot assure you that we will obtain FDA or foreign regulatory approval to market any of our product candidates for any indication in a timely manner or at all.

If we fail to obtain regulatory approval of any of our product candidates for at least one indication, we will not be permitted to market our product candidates and may be forced to cease our operations.

Even if some of our product candidates receive regulatory approval, these approvals may be subject to conditions, and we and our third party manufacturers will in any event be subject to significant ongoing regulatory obligations and oversight.

Even if any of our product candidates receives regulatory approval, the manufacturing, marketing and sale of our product candidates will be subject to stringent and ongoing government regulation. Conditions of approval, such as limiting the category of patients who can use the product, may significantly impact our ability to commercialize the product and may make it difficult or impossible for us to market a product profitably. Changes we may desire to make to an approved product, such as cell culturing changes or revised labeling, may require further regulatory review and approval, which could prevent us from updating or otherwise changing an approved product. If our product candidates are approved by the FDA or other regulatory authorities for the treatment of any indications, regulatory labeling may specify that our product candidates be used in conjunction with other therapies.

Once obtained, regulatory approvals may be withdrawn and can be expensive to maintain.

Regulatory approval may be withdrawn for a number of reasons, including the later discovery of previously unknown problems with the product. Regulatory approval may also require costly post-marketing follow-up studies, and failure of our product candidates to demonstrate sufficient efficacy and safety in these studies may result in either withdrawal of marketing approval or severe limitations on permitted product usage. In addition, numerous additional regulatory requirements relating to, among other processes, the labeling, packaging, adverse event reporting, storage, advertising, promotion and record-keeping will also apply. Furthermore, regulatory agencies subject a marketed product, its manufacturer and the manufacturer’s facilities to continual review and periodic inspections. Compliance with these regulatory requirements are time-consuming and require the expenditure of substantial resources.

If any of our product candidates is approved, we will be required to report certain adverse events involving our products to the FDA, to provide updated safety and efficacy information and to comply with requirements concerning the advertisement and promotional labeling of our products. As a result, even if we obtain necessary regulatory approvals to market our product candidates for any indication, any adverse results, circumstances or events that are subsequently discovered, could require that we cease marketing the product for that indication or expend money, time and effort to ensure full compliance, which could have a material adverse effect on our business.

If our products do not comply with applicable laws and regulations our business will be harmed.

Any failure by us, or by any third parties that may manufacture or market our products, to comply with the law, including statutes and regulations administered by the FDA or other U.S. or foreign regulatory authorities, could result in, among other things, warning letters, fines and other civil penalties, suspension of regulatory approvals and the resulting requirement that we suspend sales of our products, refusal to approve pending applications or supplements to approved applications, export or import restrictions, interruption of production, operating restrictions, closure of the facilities used by us or third parties to manufacture our product candidates, injunctions or criminal prosecution. Any of the foregoing actions could have a material adverse effect on our business.

Our products may not be accepted in the marketplace.

If we are successful in obtaining regulatory approval for any of our product candidates, the degree of market acceptance of those products will depend on many factors, including:

- Our ability to provide acceptable evidence and the perception of patients and the healthcare community, including third party payors, of the positive characteristics of our product candidates relative to existing treatment methods, including their safety, efficacy, cost effectiveness and/or other potential advantages;
- The incidence and severity of any adverse side effects of our product candidates;
- The availability of alternative treatments;
- The labeling requirements imposed by the FDA and foreign regulatory agencies, including the scope of approved indications and any safety warnings;
- Our ability to obtain sufficient third party insurance coverage or reimbursement for our product candidates;
- The inclusion of our products on insurance company coverage policies;
- The willingness and ability of patients and the healthcare community to adopt new technologies;
- The procedure time associated with the use of our product candidates;
- Our ability to manufacture or obtain from third party manufacturers sufficient quantities of our product candidates with acceptable quality and at an acceptable cost to meet demand; and
- Marketing and distribution support for our products.

We cannot predict or guarantee that physicians, patients, healthcare insurers, third party payors or health maintenance organizations, or the healthcare community in general, will accept or utilize any of our product candidates. Failure to achieve market acceptance would limit our ability to generate revenue and would have a material adverse effect on our business. In addition, if any of our product candidates achieve market acceptance, we may not be able to maintain that market acceptance over time if competing products or technologies are introduced that are received more favorably or

are more cost-effective.

Restrictions on the use of human embryonic stem cells, and the ethical, legal and social implications of that research, could prevent us from developing or gaining acceptance for commercially viable products in these areas.

Some of our most important programs involve the use of stem cells that are derived from human embryos. The use of human embryonic stem cells gives rise to ethical, legal and social issues regarding the appropriate derivation of these cells. In the event that our research related to human embryonic stem cells becomes the subject of adverse commentary or publicity, our business could be harmed or otherwise substantially impaired, and the market price for our common stock could be significantly harmed. Some political and religious groups have voiced opposition to our technology and practices. We use stem cells derived from human embryos that have been created for in vitro fertilization procedures but are no longer desired or suitable for that use and are donated with appropriate informed consent for research use. Many research institutions, including some of our scientific collaborators, have adopted policies regarding the ethical use of human embryonic tissue. These policies may have the effect of limiting the scope of research conducted using human embryonic stem cells, thereby impairing our ability to conduct research in this field.

Governmental regulations and laws could change.

There can be no assurance that our operations will not be restricted by any future legislative or administrative efforts by politicians or groups opposed to the development of human embryonic stem cell technology or nuclear transfer technology. Additionally, the scope of the Dickey–Wicker Amendment, a 16-year-old ban on U.S. federal funding for activity related to the harm or destruction of an embryo, was recently under review by the federal courts and while it was determined not to preclude funding of human embryonic stem cell research by the federal government, there can be no assurance that it will not be challenged again or the language modified by Congress so as to restrict government funding of human embryonic stem cell research. Judicial review of this or other U.S. federal or state laws could result in a more restrictive interpretation of those laws than is previously the case, and may limit or require us to terminate certain of our research and therapeutic programs.

Because we or our collaborators must obtain regulatory approval to market our products in the United States and other countries, we cannot predict whether or when we will be permitted to commercialize our products.

Federal, state and local governments in the United States and governments in other countries have significant regulations in place that govern many of our activities. We are or may become subject to various federal, state and local laws, regulations and recommendations relating to safe working conditions, laboratory and manufacturing practices, the experimental use of animals and the use and disposal of hazardous or potentially hazardous substances used in connection with our research and development work. The preclinical testing and clinical trials of the products that we or our collaborators develop are subject to extensive government regulation that may prevent us from creating commercially viable products from our discoveries. In addition, the sale by us or our collaborators of any commercially viable product will be subject to government regulation from several standpoints, including manufacturing, advertising and promoting, selling and marketing, labeling and distributing.

If, and to the extent that, we are unable to comply with these regulations, our ability to earn revenues will be materially and negatively impacted. The regulatory process, particularly in the biotechnology field, is uncertain, can take many years and requires the expenditure of substantial resources. Biological drugs and non-biological drugs are rigorously regulated. In particular, proposed human pharmaceutical therapeutic product candidates are subject to rigorous preclinical and clinical testing and other requirements by the FDA in the United States and similar health authorities in other countries in order to demonstrate safety and efficacy. We may never obtain regulatory approval to market our proposed products.

Our products may not receive FDA approval, which would prevent us from commercially marketing our products and producing revenues.

The FDA and comparable government agencies in foreign countries impose substantial regulations on the manufacture and marketing of pharmaceutical products through lengthy and detailed laboratory, pre-clinical and clinical testing procedures, sampling activities and other costly and time-consuming procedures. Satisfaction of these regulations typically takes several years or more and varies substantially based upon the type, complexity and novelty of the proposed product. We cannot assure you that FDA approvals for any products developed by us will be granted on a timely basis, if at all. Any such delay in obtaining, or failure to obtain, such approvals could have a material adverse effect on the marketing of our products and our ability to generate product revenue.

The United States federal government maintains certain rights in technology that we develop using federal government grant money and we may lose the revenues from such technology if we do not commercialize and utilize the technology pursuant to established federal government guidelines.

Certain of our and our licensors' research have been or are being funded in part by U.S. federal government grants. In connection with certain grants, the federal government retains rights in the technology developed with the grant. These rights could restrict our ability to fully capitalize upon the value of this research.

We may not be able to obtain required approvals in countries other than the United States.

The requirements governing the conduct of clinical trials and cell culturing and marketing of our product candidates outside the United States vary widely from country to country. Foreign approvals may take longer to obtain than FDA approvals and can require, among other things, additional testing and different clinical trial designs. Foreign regulatory approval processes generally include all of the risks associated with the FDA approval processes. Some foreign regulatory agencies also must approve prices of the products. Regulatory approval in one country does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country may negatively impact the regulatory process in others. We may not be able to file for regulatory approvals and may not receive necessary approvals to market our product candidates in any foreign country. If we fail to comply with these regulatory requirements or fail to obtain and maintain required approvals in any foreign country, we will not be able to sell our product candidates in that country and our ability to generate revenue will be adversely affected.

Financial Risks

We may not be able to raise the required capital to conduct our operations and develop and commercialize our products.

We require substantial additional capital resources in order to conduct our operations and develop and commercialize our products and run our facilities. We will need significant additional funds or a collaborative partner, or both, to finance the research and development activities of our therapies and potential products. Accordingly, we are continuing to pursue additional sources of financing. Our future capital requirements will depend upon many factors, including:

- The continued progress and cost of our research and development programs;
- The progress with pre-clinical studies and clinical trials;
- The time and costs involved in obtaining regulatory clearance;
- The costs in preparing, filing, prosecuting, maintaining and enforcing patent claims;
- The costs of developing sales, marketing and distribution channels and our ability to sell the therapies/products if developed;
- The costs involved in establishing manufacturing capabilities for commercial quantities of our proposed products;
- Competing technological and market developments;
- Market acceptance of our proposed products;
- The costs for recruiting and retaining employees and consultants; and
- The costs for educating and training physicians about our proposed therapies/products.

Additional financing through strategic collaborations, public or private equity financings or other financing sources may not be available on acceptable terms, or at all. Additional equity financing could result in significant dilution to our shareholders. Further, if additional funds are obtained through arrangements with collaborative partners, these arrangements may require us to relinquish rights to some of our technologies, product candidates or products that we would otherwise seek to develop and commercialize on our own. If sufficient capital is not available, we may be required to delay, reduce the scope of or eliminate one or more of our programs or potential products, any of which could have a material adverse effect on our financial condition or business prospects.

Risks Relating to Our Debt Financings

There are a large number of shares underlying our debt in full, and warrants. The sale of these shares may depress the market price of our common stock.

As of December 31, 2012, on an aggregated basis our outstanding debt and preferred stock may be converted into 133,793,145 shares of our common stock, and our outstanding warrants and options may be converted into approximately 102,195,888 shares of our common stock.

Sales of a substantial number of shares of our common stock in the public market could adversely affect the market price for our common stock and make it more difficult for you to sell shares of our common stock at times and prices that you feel are appropriate.

Risks Related to Third Party Reliance

We depend on third parties to assist us in the conduct of our preclinical studies and clinical trials, and any failure of those parties to fulfill their obligations could result in costs and delays and prevent us from obtaining regulatory approval or successfully commercializing our product candidates on a timely basis, if at all.

We engage consultants and contract research organizations to help design, and to assist us in conducting, our preclinical studies and clinical trials and to collect and analyze data from those studies and trials. The consultants and contract research organizations we engage interact with clinical investigators to enroll patients in our clinical trials. As a result, we depend on these consultants and contract research organizations to perform the studies and trials in accordance with the investigational plan and protocol for each product candidate and in compliance with regulations and standards, commonly referred to as “good clinical practice”, for conducting, recording and reporting results of clinical trials to assure that the data and results are credible and accurate and the trial participants are adequately protected, as required by the FDA and foreign regulatory agencies. We may face delays in our regulatory approval process if these parties do not perform their obligations in a timely or competent fashion or if we are forced to change service providers.

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We depend on our collaborators to help us develop and test our proposed products, and our ability to develop and commercialize products may be impaired or delayed if collaborations are unsuccessful.

Our strategy for the development, clinical testing and commercialization of our proposed products requires that we enter into collaborations with corporate partners, licensors, licensees and others. We are dependent upon the subsequent success of these other parties in performing their respective responsibilities and the continued cooperation of our partners. Under agreements with collaborators, we may rely significantly on such collaborators to, among other things:

- Design and conduct advanced clinical trials in the event that we reach clinical trials;
- Fund research and development activities with us;
- Pay us fees upon the achievement of milestones; and
- Market with us any commercial products that result from our collaborations.

Our collaborators may not cooperate with us or perform their obligations under our agreements with them. We cannot control the amount and timing of our collaborators' resources that will be devoted to our research and development activities related to our collaborative agreements with them. Our collaborators may choose to pursue existing or alternative technologies in preference to those being developed in collaboration with us.

The development and commercialization of potential products will be delayed if collaborators fail to conduct these activities in a timely manner, or at all. In addition, our collaborators could terminate their agreements with us and we may not receive any development or milestone payments.

If we do not achieve milestones set forth in the agreements, or if our collaborators breach or terminate their collaborative agreements with us, our business may be materially harmed.

Our reliance on the activities of our non-employee consultants, research institutions, and scientific contractors, whose activities are not wholly within our control, may lead to delays in development of our proposed products.

We rely extensively upon and have relationships with scientific consultants at academic and other institutions, some of whom conduct research at our request, and other consultants with expertise in clinical development strategy or other matters. These consultants are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us. We have limited control over the activities of these consultants and, except as otherwise required by our collaboration and consulting agreements to the extent they exist, can expect only limited amounts of their time to be dedicated to our activities. These research facilities may have commitments to other commercial and non-commercial entities. We have limited control over the operations of these laboratories and can expect only limited amounts of time to be dedicated to our research goals.

Preclinical & Clinical Product Development Risks

We have limited experience in conducting and managing preclinical development activities, clinical trials and the application process necessary to obtain regulatory approvals.

Our limited experience in conducting and managing preclinical development activities, clinical trials and the application process necessary to obtain regulatory approvals might prevent us from successfully designing or implementing a preclinical study or clinical trial. If we do not succeed in conducting and managing our preclinical development activities or clinical trials or in obtaining regulatory approvals, we might not be able to commercialize our product candidates, or might be significantly delayed in doing so, which will materially harm our business.

Our ability to generate revenues from any of our product candidates will depend on a number of factors, including our ability to successfully complete clinical trials, obtain necessary regulatory approvals and implement our commercialization strategy. In addition, even if we are successful in obtaining necessary regulatory approvals and bringing one or more product candidates to market, we will be subject to the risk that the marketplace will not accept those products. We may, and anticipate that we will need to, transition from a company with a research and development focus to a company capable of supporting commercial activities and we may not succeed in such a transition.

Because of the numerous risks and uncertainties associated with our product development and commercialization efforts, we are unable to predict the extent of our future losses or when or if we will become profitable.

Our failure to successfully commercialize our product candidates or to become and remain profitable could depress the market price of our common stock and impair our ability to raise capital, expand our business, diversify our product offerings and continue our operations.

None of the products that we are currently developing has been approved for marketing by the FDA or any similar regulatory authority in any foreign country. Our approach of using cell-based therapy for the treatment of retinal disease (we are beginning with a treatment for Startgardt's disease and dry AMD, for which we filed INDs with the FDA and Investigational Medicinal Product Dossiers with the MHRA) is risky and unproven and no products using this approach have received regulatory approval in the United States or Europe.

We believe that no other company has yet been successful in its efforts to obtain regulatory approval in the United States or Europe of a cell-based therapy product for the treatment of retinal disease or degeneration in humans. Cell-based therapy products, in general, may be susceptible to various risks, including undesirable and unintended side effects, unintended immune system responses, inadequate therapeutic efficacy or other characteristics that may prevent or limit their approval by regulators or commercial use. Many companies in the industry have suffered significant setbacks in advanced clinical trials, despite promising results in earlier trials. If our clinical trials are unsuccessful or significantly delayed, or if we do not complete our clinical trials, we will not receive regulatory approval for or be able to commercialize our product candidates.

Our lead product candidates, our therapeutic Retinal programs for Startgardt's disease and Dry AMD, have recently started Phase I Clinical Trials and have not yet received market approval from the FDA or any similar foreign regulatory authority for any indication.

We cannot market any product candidate until regulatory agencies grant approval or licensure. In order to obtain regulatory approval for the sale of any product candidate, we must, among other requirements, provide the FDA and similar foreign regulatory authorities with preclinical and clinical data that demonstrate to the satisfaction of regulatory authorities that our product candidates are safe and effective for each indication under the applicable standards relating to such product candidate. The preclinical studies and clinical trials of any product candidates must comply with the regulations of the FDA and other governmental authorities in the United States and similar agencies in other countries. Our therapeutic Retinal programs may never receive market approval from the FDA or any similar foreign regulatory authority.

We may experience numerous unforeseen events during, or even if approved for clinical trials, as a result of, the clinical trial process that could delay or prevent regulatory approval and/or commercialization of our product candidates, including the following:

- The FDA or similar foreign regulatory authorities may find that our product candidates are not sufficiently safe or effective or may find our cell culturing processes or facilities unsatisfactory;

- Officials at the FDA or similar foreign regulatory authorities may interpret data from preclinical studies and clinical trials differently than we do;

- Our clinical trials may produce negative or inconclusive results or may not meet the level of statistical significance required by the FDA or other regulatory authorities, and we may decide, or regulators may require us, to conduct additional preclinical studies and/or clinical trials or to abandon one or more of our development programs;

- The FDA or similar foreign regulatory authorities may change their approval policies or adopt new regulations;

- There may be delays or failure in obtaining approval of our clinical trial protocols from the FDA or other regulatory authorities or obtaining institutional review board approvals or government approvals to conduct or continue clinical trials at current or prospective sites;

- We, or regulators, may suspend or terminate our clinical trials because the participating patients are being exposed to unacceptable health risks or undesirable side effects;

- We may experience difficulties in managing multiple clinical sites;

- Enrollment in our clinical trials for our product candidates may occur more slowly than we anticipate, or we may experience high drop-out rates of subjects in our clinical trials, resulting in significant delays;

- We may be unable to manufacture or obtain from third party manufacturers sufficient quantities of our product candidates for use in clinical trials; and

- Our product candidates may be deemed unsafe or ineffective, or may be perceived as being unsafe or ineffective, by healthcare providers for a particular indication.

Any delay of regulatory approval will harm our business.

Risks Related to Competition

The market for therapeutic stem cell products is highly competitive.

We expect that our most significant competitors will be fully integrated pharmaceutical companies and more established biotechnology companies. These companies are developing stem cell-based products and they have significantly greater capital resources in research and development, manufacturing, testing, obtaining regulatory approvals and marketing capabilities. Many of these potential competitors are further along in the process of product development and also operate large, company-funded research and development programs. As a result, our competitors may develop more competitive or affordable products, or achieve earlier patent recognition and filings.

The biotechnology industries are characterized by rapidly evolving technology and intense competition. Our competitors include major multinational pharmaceutical companies, specialty biotechnology companies and chemical and medical products companies operating in the fields of regenerative medicine, cell therapy, tissue engineering and tissue regeneration.

Many of these companies are well-established and possess technical, research and development, financial and sales and marketing resources significantly greater than ours. In addition, certain smaller biotech companies have formed strategic collaborations, partnerships and other types of joint ventures with larger, well established industry competitors that afford these companies' potential research and development and commercialization advantages. Academic institutions, governmental agencies and other public and private research organizations are also conducting and financing research activities which may produce products directly competitive to those we are developing. Moreover, many of these competitors may be able to obtain patent protection, obtain FDA and other regulatory approvals and begin commercial sales of their products before we do.

In the general area of cell-based therapies (including both allogeneic and autologous cell therapies), we compete with a variety of companies, most of whom are specialty biotechnology companies, such as, Genzyme Corporation, StemCells, Inc., Inc., Viacell, Inc., Biotime, Inc., ISCO, MG Biotherapeutics, Pfizer, GlaxoSmithKline, Novartis, Roche, Cell Cure Neurosciences Ltd., Celgene, Baxter Healthcare, Mesoblast, Osiris Therapeutics and Cytori.

Each of these companies is well-established and have substantial technical and financial resources compared to us. However, as cell-based products are only just emerging as medical therapies, many of our direct competitors are smaller biotechnology and specialty medical products companies. These smaller companies may become significant competitors through rapid evolution of new technologies. Any of these companies could substantially strengthen their competitive position through strategic alliances or collaborative arrangements with large pharmaceutical or biotechnology companies.

The diseases and medical conditions we are targeting have no effective long-term therapies. Nevertheless, we expect that our technologies and products will compete with a variety of therapeutic products and procedures offered by major pharmaceutical companies. Many pharmaceutical and biotechnology companies are investigating new drugs and therapeutic approaches for the same purposes, which may achieve new efficacy profiles, extend the therapeutic window for such products, alter the prognosis of these diseases or prevent their onset.

We believe that our products, when and if successfully developed, will compete with these products principally on the basis of improved and extended efficacy and safety and their overall economic benefit to the health care system.

Competition for any stem cell products that we may develop may be in the form of existing and new drugs, other forms of cell transplantation, ablative and simulative procedures and gene therapy. We believe that some of our competitors are also trying to develop stem and progenitor cell-based technologies. We expect that all of these products will compete with our potential stem cell products based on efficacy, safety, cost and intellectual property positions. We may also face competition from companies that have filed patent applications relating to the use of genetically modified cells to treat disease, disorder or injury. In the event our therapies should require the use of such genetically modified cells, we may be required to seek licenses from these competitors in order to commercialize certain of our proposed products, and such licenses may not be granted.

If we develop products that receive regulatory approval, they would then have to compete for market acceptance and market share. For certain of our potential products, an important success factor will be the timing of market introduction of competitive products. This timing will be a function of the relative speed with which we and our competitors can develop products, complete the clinical testing and approval processes and supply commercial quantities of a product to market. These competitive products may also impact the timing of clinical testing and approval processes by limiting the number of clinical investigators and patients available to test our potential products.

Our competition includes both public and private organizations and collaborations among academic institutions and large pharmaceutical companies, most of which have significantly greater experience and financial resources than we do.

Private and public academic and research institutions also compete with us in the research and development of therapeutic products based on human embryonic and adult stem cell technologies. In the past several years, the pharmaceutical industry has selectively entered into collaborations with both public and private organizations to explore the possibilities that stem cell therapies may present for substantive breakthroughs in the fight against disease.

The biotechnology and pharmaceutical industries are characterized by intense competition. We compete against numerous companies, both domestic and foreign, many of which have substantially greater experience and financial and other resources than we have. Several such enterprises have initiated cell therapy research programs and/or efforts to treat the same diseases targeted by us.

Companies such as Pfizer, Genzyme Corporation, GlaxoSmithKline, Novartis, Roche, Cell Cure Neurosciences Ltd., Mesoblast, Cytori, StemCells, Inc. and Viacell, Inc., as well as others, many of which have substantially greater resources and experience in our fields than we do, are well situated to effectively compete with us. Any of the world's largest pharmaceutical companies represents a significant actual or potential competitor with vastly greater resources than ours. These companies hold licenses to genetic selection technologies and other technologies that are competitive with our technologies. These and other competitive enterprises have devoted, and will continue to devote, substantial resources to the development of technologies and products in competition with us.

Many of our competitors have significantly greater experience than we have in the development, pre-clinical testing and human clinical trials of biotechnology and pharmaceutical products, in obtaining FDA and other regulatory approvals of such products and in manufacturing and marketing such products.

Accordingly our competitors may succeed in obtaining FDA approval for products more rapidly or effectively than we can. Our competitors may also be the first to discover and obtain a valid patent to a particular stem cell technology which may effectively block all others from doing so. It will be important for us or our collaborators to be the first to discover any stem cell technology that we are seeking to discover. Failure to be the first could prevent us from commercializing all of our research and development affected by that discovery. Additionally, if we commence commercial sales of any products, we will also be competing with respect to manufacturing efficiency and sales and marketing capabilities, areas in which we have no experience.

General Risks Relating to Our Business

We are subject to litigation that will be costly to defend or pursue and uncertain in its outcome.

Our business may bring us into conflict with our licensees, licensors or others with whom we have contractual or other business relationships, or with our competitors or others whose interests differ from ours. If we are unable to resolve those conflicts on terms that are satisfactory to all parties, we may become involved in litigation brought by or against us. That litigation is likely to be expensive and may require a significant amount of management's time and attention, at the expense of other aspects of our business. The outcome of litigation is always uncertain, and in some cases could include judgments against us that require us to pay damages, enjoin us from certain activities or otherwise affect our legal or contractual rights, which could have a significant adverse effect on our business. See "ITEM 3. LEGAL PROCEEDINGS" in this report on Form 10-K for a more complete discussion of currently pending litigation against the Company.

We may not be able to obtain third-party patient reimbursement or favorable product pricing, which would reduce our ability to operate profitably.

Our ability to successfully commercialize certain of our proposed products in the human therapeutic field may depend to a significant degree on patient reimbursement of the costs of such products and related treatments at acceptable levels from government authorities, private health insurers and other organizations, such as health maintenance organizations. We cannot assure you that reimbursement in the United States or foreign countries will be available for any products we may develop or, if available, will not be decreased in the future, or that reimbursement amounts will not reduce the demand for, or the price of, our products with a consequent harm to our business. We cannot predict what additional regulation or legislation relating to the health care industry or third-party coverage and reimbursement may be enacted in the future or what effect such regulation or legislation may have on our business. If additional regulations are overly onerous or expensive, or if health care related legislation makes our business more expensive or burdensome than originally anticipated, we may be forced to significantly downsize our business plans or completely abandon our business model.

Our products are likely to be expensive to manufacture, and they may not be profitable if we are unable to control the costs to manufacture them.

Our products are likely to be significantly more expensive to manufacture than most other drugs currently on the market today. Our present manufacturing processes produce modest quantities of product intended for use in our ongoing research activities, and we have not developed processes, procedures and capability to produce commercial

volumes of product. We hope to substantially reduce manufacturing costs through process improvements, development of new science, increases in manufacturing scale and outsourcing to experienced manufacturers. If we are not able to make these or other improvements, and depending on the pricing of the product, our profit margins may be significantly less than that of most drugs on the market today. In addition, we may not be able to charge a high enough price for any cell therapy product we develop, even if they are safe and effective, to make a profit. If we are unable to realize significant profits from our potential product candidates, our business would be materially harmed.

Our current source of revenues depends on the stability and performance of our sub-licensees.

Our ability to collect royalties on product sales from our sub-licensees will depend on the financial and operational success of the companies operating under a sublicense. Revenues from those licensees will depend upon the financial and operational success of those third parties. We cannot assure you that these licensees will be successful in obtaining requisite financing or in developing and successfully marketing their products. These licensees may experience unanticipated obstacles including regulatory hurdles, and scientific or technical challenges, which could have the effect of reducing their ability to generate revenues and pay us royalties.

We depend on key personnel for our continued operations and future success, and a loss of certain key personnel could significantly hinder our ability to move forward with our business plan.

Because of the specialized nature of our business, we are highly dependent on our ability to identify, hire, train and retain highly qualified scientific and technical personnel for the research and development activities we conduct or sponsor. The loss of one or more certain key executive officers, or scientific officers, would be significantly detrimental to us. In addition, recruiting and retaining qualified scientific personnel to perform research and development work is critical to our success. Our anticipated growth and expansion into areas and activities requiring additional expertise, such as clinical testing, regulatory compliance, manufacturing and marketing, will require the addition of new management personnel and the development of additional expertise by existing management personnel. There is intense competition for qualified personnel in the areas of our present and planned activities, and there can be no assurance that we will be able to continue to attract and retain the qualified personnel necessary for the development of our business. The failure to attract and retain such personnel or to develop such expertise would adversely affect our business.

Our insurance policies may be inadequate and potentially expose us to unrecoverable risks.

Any significant insurance claims would have a material adverse effect on our business, financial condition and results of operations. Insurance availability, coverage terms and pricing continue to vary with market conditions. We endeavor to obtain appropriate insurance coverage for insurable risks that we identify, however, we may fail to correctly anticipate or quantify insurable risks, we may not be able to obtain appropriate insurance coverage and insurers may not respond as we intend to cover insurable events that may occur. We have observed rapidly changing conditions in the insurance markets relating to nearly all areas of traditional corporate insurance. Such conditions have resulted in higher premium costs, higher policy deductibles, and lower coverage limits. For some risks, we may not have or maintain insurance coverage because of cost or availability.

We have limited product liability insurance, which may leave us vulnerable to future claims we will be unable to satisfy.

The testing, manufacturing, marketing and sale of human therapeutic products entail an inherent risk of product liability claims, and we cannot assure you that substantial product liability claims will not be asserted against us. We have limited product liability insurance. In the event we are forced to expend significant funds on defending product liability actions, and in the event those funds come from operating capital, we will be required to reduce our business activities, which could lead to significant losses. We cannot assure you that adequate insurance coverage will be available in the future on acceptable terms, if at all, or that, if available, we will be able to maintain any such insurance at sufficient levels of coverage or that any such insurance will provide adequate protection against potential liabilities. Whether or not a product liability insurance policy is maintained in the future, any product liability claim could harm our business or financial condition.

We presently have members of management and other key employees located in various locations throughout the country which adds complexities to the operation of the business.

Presently, we have members of management and other key employees located in both California and Massachusetts, which adds complexities to the operation of our business.

Risks Relating to Our Common Stock

Stock prices for biotechnology companies have historically tended to be very volatile.

Stock prices and trading volumes for many biotechnology companies fluctuate widely for a number of reasons, including but not limited to the following factors, some of which may be unrelated to their businesses or results of operations:

- Clinical trial results;
- The amount of cash resources and ability to obtain additional funding;
- Announcements of research activities, business developments, technological innovations or new products by companies or their competitors;
- Entering into or terminating strategic relationships;

- Changes in government regulation;
- Disputes concerning patents or proprietary rights;
- Changes in revenues or expense levels;
- Public concern regarding the safety, efficacy or other aspects of the products or methodologies being developed,
- Reports by securities analysts;
- Activities of various interest groups or organizations;
- Media coverage; and
- Status of the investment markets.

This market volatility, as well as general domestic or international economic, market and political conditions, could materially and adversely affect the market price of our common stock and the return on your investment.

A significant number of shares of our common stock have become available for sale and their sale could depress the price of our common stock.

Substantially all of our common stock is freely tradeable in the equity markets.

We may also sell a substantial number of additional shares of our common stock in connection with a private placement or public offering of shares of our common stock (or other series or class of capital stock to be designated in the future). The terms of any such transactions would likely require us to register the resale of any shares of capital stock issued or issuable in the transaction.

Sales of a substantial number of shares of our common stock under any of the circumstances described above could adversely affect the market price for our common stock and make it more difficult for you to sell shares of our common stock at times and prices that you feel are appropriate.

We do not intend to pay cash dividends on our common stock in the foreseeable future.

Any payment of cash dividends will depend upon our financial condition, results of operations, capital requirements and other factors and will be at the discretion of our board of directors. We do not anticipate paying cash dividends on our common stock in the foreseeable future. Furthermore, we may incur additional indebtedness that may severely restrict or prohibit the payment of dividends.

Our common stock is subject to "penny stock" regulations and restrictions on initial and secondary broker-dealer sales.

The Securities and Exchange Commission (SEC) has adopted regulations which generally define "penny stock" to be any listed, trading equity security that has a market price less than $5.00 per share or an exercise price of less than $5.00 per share, subject to certain exemptions. Penny stocks are subject to certain additional oversight and regulatory requirements. Brokers and dealers affecting transactions in our common stock in many circumstances must obtain the written consent of a customer prior to purchasing our common stock, must obtain information from the customer and must provide disclosures to the customer. These requirements may restrict the ability of broker-dealers to sell our common stock and may affect your ability to sell your shares of our common stock in the secondary market.

As an issuer of "penny stock," the protection provided by the federal securities laws relating to forward looking statements does not apply to us.

Although federal securities laws provide a safe harbor for forward-looking statements made by a public company that files reports under the federal securities laws, this safe harbor is not available to issuers of penny stocks. As a result, the Company will not have the benefit of this safe harbor protection in the event of any legal action based upon a claim that the material provided by the Company contained a material misstatement of fact or was misleading in any material respect because of the Company's failure to include any statements necessary to make the statements not misleading. Such an action could hurt our financial condition.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our principal executive offices are located in Marlborough, Massachusetts, where we lease approximately 30,000 square foot of office and laboratory facilities. We lease the 30,000 square feet pursuant to two leases. The first lease agreement relates to 12,257 square feet of office and laboratory facilities, requires a monthly rent payment of $14,550 and continues until July 31, 2015. The second lease agreement relates to 17,696 of office and laboratory facilities, requires a monthly rent payment of $21,383 starting in April 2013 (with scheduled increases thereafter) and continues until March 31, 2018 with an option to extend the lease for an additional five year period. We also lease approximately 1,568 square feet of corporate office space in Santa Monica, California for $6,272 per month (with schedule increases thereafter), which lease continues until February 28, 2018.

Item 3. Legal Proceedings.

Midsummer Investment, Ltd

On August 9, 2011, we entered into a Settlement Agreement and Mutual Release with Midsummer Investment, Ltd and Midsummer Small Cap Master, Ltd. (collectively, "Midsummer"). Pursuant to the settlement agreement, upon tender by Midsummer to the Company of warrants held by Midsummer to purchase a total of 20,319,730 shares of our common stock (the "Warrants"), and duly executed notices of exercise (deemed to occur upon execution of the settlement agreement), we, to settle errors involving warrant issuances to Midsummer, agreed to (i) deliver to Midsummer an aggregate of 36,000,000 shares of the Company's common stock (the "Current Shares"), as an exercise of the Warrants in respect of a partial exercise of Warrants, (ii) undertake to issue 30,585,774 additional shares of our common stock (the "Future Shares"), as an exercise of the remainder of the Warrants within ten days of the date that we shall have sufficient authorized and unissued shares of Common Stock ("Authorized Share Increase") which are not otherwise reserved for issuance for other purposes to enable us to issue all of the Future Shares and (iii) issue 3,058,577 shares of our common stock (the "Additional Future Shares") for every calendar month elapsed between the date of delivery of the Current Shares and the date following delivery of the Future Shares. We and Midsummer provided mutual general releases.

Alpha Capital Anstalt v. Advanced Cell Technology, Inc., 11 Civ. 06458 (PAC) (S.D.N.Y.)

Alpha Capital Anstalt ("Alpha") filed its complaint against us in the United States District Court for the Southern District of New York, Case No. 11 CIV 6458, on September 16, 2011. In its complaint, Alpha asserts that as a result of the transactions between the Company and JMJ Financial ("JMJ"), we were obligated to immediately notify Alpha and to reduce the exercise prices of its warrants and convertible notes to at most $0.0353. At various times between November 2010 and August 2011, Alpha exercised its warrants and converted its convertible notes into shares of our

common stock. Alpha asserted that had its exercise prices been properly reduced, it would have received additional shares amounting to 39,514,859. Alpha also asserted claims for unspecified damage, in an amount to be determined at trial, based upon the Company's alleged failure to deliver the shares and for its failure to provide notice of reduction in exercise price and conversion price.

On September 16, 2011, Alpha moved for preliminary declaratory relief and for a preliminary injunction directing us to deliver immediately at least 39,514,859 shares of our common stock to Alpha. On October 14, 2011, the Court granted the preliminary injunction and directed us to hold 39,514,859 shares of our common stock in escrow pending entry of the preliminary injunction. On November 1, 2011, we delivered 39,514,859 shares of its common stock to Alpha. On November 23, 2011, we answered Alpha's complaint and asserted affirmative defenses. On December 12, 2011, the Company and Alpha submitted a Civil Case Management Plan and Scheduling Order.

On September 11, 2012, we entered into a settlement agreement with Alpha. Pursuant to the settlement agreement, and subject to Court approval, we agreed, in exchange for dismissal of the pending lawsuit with prejudice and a mutual release of all claims, to issue to Alpha 34,285,714 shares of our common stock and pay $500,000 to Alpha.

On September 13, 2012, the Court approved the settlement agreement.

Black Mountain Equities, Inc. v. Advanced Cell Technology, Inc., 11 Civ. 07305 (PAE) (S.D.N.Y.)

Black Mountain Equities, Inc. (“BME”) filed its complaint on October 17, 2011. In this initial complaint, BME asserted that as a result of the transactions between the Company and JMJ, we were obligated to immediately notify BME and to reduce the exercise prices of its warrants and convertible notes to approximately $0.03 per share. BME complains that on August 31, 2011, it made a cashless exercise of its warrants by delivering a notice of exercise which the Company declined to honor. BME asserts claims for damages, in an amount to be determined at trial, for the Company’s alleged failure to deliver the shares and for its failure to provide notice of reduction in exercise price.

On October 28, 2011, BME moved for preliminary declaratory relief and for a preliminary injunction directing us to deliver immediately at least 18,000,000 shares of our common stock to BME. On November 9, 2011, the Court granted the preliminary injunction, directed us to immediately deliver 18,000,000 shares of our common stock to BME and ordered BME to place all proceeds from the sale of the Company’s stock into an interest-earning client escrow account held by its counsel. On December 15, 2011, the Company answered BME’s initial complaint and asserted counterclaims, disputing BME’s contention that it was owed 18,000,000 shares.

On December 29, 2011, BME filed an amended complaint. In its amended complaint, BME asserts that on August 31, 2011, it made a cashless exercise of warrants issued by the Company by delivering a Notice of Exercise, demanding 18,000,000 shares of our common stock, based upon a reduced exercise price and increased warrant share amount. BME complains that the Company did not deliver any shares to BME.

On April 9, 2012, we entered into a settlement and release agreement with BME, in which we agreed, in exchange for dismissal of the pending lawsuit with prejudice and a mutual release of all claims, to issue to BME an additional 800,000 shares of our common stock and consent to the delivery to BME of the previously issued 18,000,000 shares of common stock (or any proceeds received from the sale of the previously issued shares) that were required to be placed in an escrow account pursuant to the preliminary injunction order dated November 9, 2011. On May 4, 2012, the Court approved the settlement, and the action was dismissed with prejudice.

Cranshire Capital Master Fund, Ltd. v. Advanced Cell Technology, Inc., 11 Civ. 08755 (DLC) (JCF) (S.D.N.Y.)

Cranshire Capital Master Fund, Ltd. (“Cranshire”) filed its complaint on December 1, 2011. In its complaint, Cranshire asserts that as a result of the transactions between the Company and JMJ, the exercise price of its warrants should have been decreased to $.0353 and the total number of warrant shares issuable upon exercise should have been increased from 6,918,197 to 19,598,292. Based upon these figures, Cranshire asserted that its December 2010 warrant exercise should have resulted in an additional 12,680,094 shares. Cranshire asserts claims for damages, in an amount to be determined at trial, for the Company’s alleged failure to deliver the shares and to provide proper notice of reduction in exercise price and conversion price.

On December 2, 2011, Cranshire moved for preliminary declaratory relief and for a preliminary injunction directing us to deliver immediately at least 12,680,094 shares of our common stock to Cranshire. At the hearing on December 15, 2011, Cranshire changed its argument, contending that the exercise price should have been decreased to $.027 (as opposed to $.0353) and that, consequently, it was entitled to 18,000,000 shares (as opposed to 12,680,094 shares). On

December 15, 2011, the Court granted a preliminary injunction and directed us to deliver to Cranshire 10,730,265 shares of our common stock.

On March 8, 2012, the Court approved an exchange agreement entered into on February 24, 2012 between the Company and Cranshire, in which we agreed, in exchange for dismissal of the pending lawsuit with prejudice and a mutual release of all claims, to issue 4,941,605 shares of common stock to Cranshire and to release the escrow proceeds from the sale of the 10,730,265 shares of our common stock issued to Cranshire pursuant to the order of the Court entered on December 15, 2011. The shares were thereafter delivered to Cranshire, the escrow proceeds were released, and the action was dismissed with prejudice.

Camofi Master LDC v. Advanced Cell Technology, Inc., Index No. 652816-2011 (N.Y. Sup.)

Camofi Master LDC and Camzhn Master LDC (the "Camofi Parties") filed a complaint on October 13, 2011 and an amended complaint on April 3, 2012. In their complaint, the Camofi Parties argue that as a result of transactions between the Company and JMJ, Gemini Master Fund, Ltd., Midsummer Investment, Ltd., and other entities, the exercise prices in their warrants and debentures should have been reduced such that the Camofi Parties argue that they should receive at least 1,441,199,111 shares of our common stock, and that they are entitled to receive 502,669,450 shares pursuant to unexercised warrants, along with unspecified monetary damages in the "tens of millions of dollars." We answered the Complaint and asserted affirmative defenses.

On January 11, 2013, we entered into a settlement agreement and mutual release with the CAMOFI Parties.

Pursuant to the settlement agreement, and subject to Court approval, we agreed, in exchange for dismissal of the pending lawsuit with prejudice and a mutual release of all claims, to do the following on the business day following approval by the Court of the settlement or on another day agreed upon by the parties to the settlement:

- issue to the CAMOFI Parties an aggregate number of shares of our common stock calculated by dividing $4,500,000 by the least of (a) $0.056 per share, (b) the closing price of the common stock on the day immediately prior to the execution of the Settlement Agreement or (c) the VWAP reported by Bloomberg LP for the 30-day period before such shares of common stock are received, of which 78.9% of such shares will be issued to CAMOFI and 21.1% to CAMHZN;

- issue (a) to CAMOFI a debenture in the principal amount of $4,732,781 and (b) to CAMHZN a debenture in the original principal amount of $1,267,219;

- pay $1,577,594 to CAMOFI and $422,406 to CAMHZN; and

- reimburse the CAMOFI Parties for certain of the CAMOFI Parties' costs incurred in connection with the pending lawsuit.

On January 22, 2013, the Supreme Court of New York approved the issuance of the shares of our common stock that we agreed to issue to the CAMOFI Parties pursuant to the settlement agreement and Mutual Release that was entered into on January 11, 2013. Accordingly, on January 23, 2013, we issued an aggregate of 80,357,143 shares to the CAMOFI Parties as required by the settlement agreement and in reliance upon the exemption from registration under Section 3(a)(10) of the Securities Act of 1933, as amended.

Estate of William Caldwell

Two warrant holders (the “Plaintiffs”) filed substantively identical actions against ACT and Wilmington Trust, N.A., the Administrator with Will Annexed of the Estate of William Mackay Caldwell, IV, Deceased (“Caldwell”), in the United States District Court for the District of Massachusetts: Gary D. See Aronson v. Advanced Cell Technology, Inc., et al., Case No.: 1:11-CV-11492-NMG, filed August 23, 2011; and John S. Gorton, as Trustee of the John S. Gorton Separate Property Trust, Dated 3/3/1993 v. Advanced Cell Technology, Inc., et al., Case No.: 1:11-CV-11515-NMG, filed August 25, 2011. Substantively identical Amended Complaints were then filed: in Aronson, on October 13, 2011; and in Gorton, on November 2, 2011. These Amended Complaints allege claims for federal securities fraud against ACT and Caldwell, and breach of contract against ACT, purportedly based on separate Warrants To Purchase Securities (the “Warrants”) executed by Plaintiffs and ACT in September 2005.

Specifically, Plaintiffs allege that ACT, contrary to the terms of the Warrants, (1) issued Equity Units (as defined therein) to Gunnar Engstrom and William Woodward during the Warrants' Pricing Period (May 1, 2005 to January 15, 2009) for less than the exercise price stated in the Warrants ($2.20 per share), thereby triggering an automatic reduction of the exercise price and a concomitant increase of the number of ACT shares purchasable under the Warrants; (2) failed to notify Plaintiffs of the issuance of the Equity Units that purportedly triggered adjustments under the Warrants; and (3) made material misrepresentations or omissions of fact related thereto. After settlement negotiations failed to resolve these matters, and Defendants agreed to waive formal service of the Amended Complaints, ACT and Caldwell separately moved to dismiss both Plaintiffs' Amended Complaints, arguing that: (1) Plaintiffs failed to allege any fraudulent misrepresentation or omission by ACT in connection with the Warrants and Plaintiffs failed to allege any actionable breach of the Warrants, for the simple reason that the complained-of issuances of Equity Units took place outside the Warrants' Pricing Period; (2) even if Plaintiffs had properly alleged fraud, the Amended Complaints do not give rise to the strong inference of scienter needed to satisfy the rigorous pleading requirements of the Private Securities Litigation Reform Act, 15 U.S.C. § 78u-4; (3) Plaintiffs' securities-fraud claims are barred by the two-year statute of limitations and five-year statute of repose applicable to securities-fraud claims, 28 U.S.C. § 1658(b)(1), (2); (4) Plaintiffs failed to allege reliance and loss causation, both necessary elements of any securities-fraud claim; and (5) Plaintiffs failed to allege a cognizable request for preliminary injunctive relief. The Motions to Dismiss are fully briefed in Aronson, and have been filed and served in the Gorton matter. Defendants requested oral argument in both cases, which are pending before Honorable Nathaniel M. Gorton, United States District Judge for the District of Massachusetts. District Judge Gorton has referred the Motions to Dismiss in both actions to Honorable Judith G. Dein, United States Magistrate Judge for the District of Massachusetts, for a report and recommendation. Oral arguments have not yet been scheduled.

Securities and Exchange Commission – Civil Action

In May 2012, we were named as a defendant in a civil action brought by the Securities and Exchange Commission related to transactions involving the sale and issuance of the Company's securities. The Securities and Exchange Commission alleges that the Company violated Section 5(a) and 5(c) of the Securities Act of 1933 because certain sales of shares to outside organizations, completed in late 2008 and early 2009 under our former management, resulting in $3.5 million in proceeds to us, were neither registered under the Securities act nor subject to an exemption from registration under Section 3(a)(10) of the Securities Act of 1933, as amended. In addition, the Company is alleged to have violated Section 13(a) of the Exchange Act of 1934 because it did not disclose the sale and issuance of the shares to the Securities and Exchange Commission on a timely basis.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

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

Market Information

Our common stock is quoted on the OTCBB and OTCQB under the symbol "ACTC." For the periods indicated, the following table sets forth the high and low bid prices per share of our common stock. These prices represent inter-dealer quotations without retail markup, markdown or commission and may not necessarily represent actual transactions.

Fiscal Year 2012	High Bid	Low Bid
First Quarter	$ 0.20	$ 0.08
Second Quarter	$ 0.09	$ 0.06
Third Quarter	$ 0.10	$ 0.05
Fourth Quarter	$ 0.08	$ 0.06

Fiscal Year 2011	High Bid	Low Bid
First Quarter	$ 0.26	$ 0.12
Second Quarter	$ 0.21	$ 0.17
Third Quarter	$ 0.19	$ 0.13
Fourth Quarter	$ 0.16	$ 0.07

Trades of our common stock are subject to Rule 15g-9 of the Securities and Exchange Commission, known as the Penny Stock Rule. This rule imposes requirements on broker/dealers who sell securities subject to the rule to persons other than established customers and accredited investors. For transactions covered by the rule, brokers/dealers must make a special suitability determination for purchasers of the securities and receive the purchaser's written agreement to the transaction prior to sale. The Securities and Exchange Commission also has rules that regulate broker/dealer practices in connection with transactions in "penny stocks." Penny stocks generally are equity securities with a price of less than $5.00, other than securities registered on certain national securities exchanges or quoted on the NASDAQ system, provided that current price and volume information with respect to transactions in that security is provided by the exchange or system. The Penny Stock Rules requires a broker/dealer, prior to a transaction in a penny stock not otherwise exempt from the rules, to deliver a standardized risk disclosure document prepared by the Commission that provides information about penny stocks and the nature and level of risks in the penny stock market. The broker/dealer also must provide the customer with current bid and offer quotations for the penny stock, the compensation of the broker/dealer and its salesperson in the transaction, and monthly account statements showing the market value of each penny stock held in the customer's account. The bid and offer quotations, and the broker/dealer and salesperson compensation information, must be given to the customer orally or in writing prior to effecting the transaction and must be given to the customer in writing before or with the customer's confirmation. These disclosure requirements have the effect of reducing the level of trading activity in the secondary market for our common stock. As a result of these rules, investors may find it difficult to sell their shares.

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Stock Price Performance Graph

A five-year comparison of the performance of our common stock with a broad equity market index and a peer group is set forth below. The broad equity market index used is the Nasdaq Composite Index and the peer group is the Dow Jones U.S. Biotechnology Index. The below comparison assumes $100 was invested on January 1, 2007 and dividends are reinvested for all years ending December 31.

Holders

As of February 4, 2013, there were approximately 225 stockholders of record of our common stock.

Dividends

We have never paid cash dividends and have no plans to do so in the foreseeable future. Our future dividend policy will be determined by our board of directors and will depend upon a number of factors, including our financial condition and performance, our cash needs and expansion plans, income tax consequences, and the restrictions that applicable laws, our current preferred stock instruments, and our future credit arrangements may then impose. Accrued dividends will be payable upon redemption for our Series B Preferred Stock and our Series C Preferred Stock.

Recent Sales of Unregistered Securities

On October 4, 2012, we issued a board member 1,000,000 shares of common stock valued at $143,000 as compensation for board services.

On December 27, 2012, we issued 1,000,000 shares of common stock valued at $185,000 to Gary Rabin pursuant to his employment agreement.

On December 27, 2012, we issued 1,285,714 shares of common stock valued at $163,142 to Robert Lanza pursuant to his employment agreement.

On December 31, 2012, we issued various board members 1,080,348 shares of common stock valued at $61,812 as compensation for board services.

On January 23, 2013, we issued 80,357,143 shares of common stock pursuant to the settlement agreement with CAMOFI Parties.

Between November 14, 2012 and March 4, 2013, we have issued 89,928,000 shares to Lincoln Park pursuant to the purchase agreement.

We relied on the exemption from registration provided by Section 4(2) of the Securities Act of 1933, as amended (the “Securities Act”), with respect to each of the issuances of unregistered securities set forth above.

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Item 6. Selected Financial Data.

The following consolidated selected financial data is derived from the Company's audited financial statements as of and for the five years ended December 31, 2012. The following consolidated financial data should be read in conjunction with Management's Discussion and Analysis of Financial Condition and Results of Operations and the Consolidated Financial Statements and related notes included elsewhere in this report.

Statement of operations data

	For the Year Ended December 31,				
	2012	2011	2010	2009	2008
Revenue	$466,487	$506,419	$725,044	$1,415,979	$787,106
Loss from operations	(21,138,015)	(21,110,358)	(32,328,631)	(10,822,654)	(18,954,626)
Non operating expense	(7,388,246)	(51,684,761)	(22,044,701)	(25,935,554)	(14,948,887)
Net loss	$(28,526,261)	$(72,795,119)	$(54,373,332)	$(36,758,208)	$(33,903,513)
Net loss per common share:					
Basic	$(0.01)	$(0.05)	$(0.04)	$(0.07)	$(0.14)
Diluted	$(0.01)	$(0.05)	$(0.04)	$(0.07)	$(0.14)

Balance Sheet data

	As of December 31,				
	2012	2011	2010	2009	2008
Cash and cash equivalents	$7,241,852	$13,103,007	$15,889,409	$2,538,838	$816,904
Deferred issuance costs	568,458	1,376,447	2,578,188	1,945,755	–
Total assets	8,496,542	15,185,326	19,054,152	5,088,008	2,577,778
Accounts payable	$2,956,743	$2,128,562	$1,982,743	$6,172,881	$8,287,789
Accrued expenses	10,018,799	36,694,097	8,177,160	2,031,032	6,458,975
Debentures (1)	5,531,850	129,643	135,460	8,630,795	16,078,095
Derivative liabilities (2)	1,940,082	1,924,577	28,327,153	26,778,401	2,655,849
Loss contingency accrual	6,176,787	16,704,169	–	–	–
Deferred revenue (3)	2,132,509	2,298,996	2,805,415	6,586,315	4,652,294
Total liabilities	28,756,770	59,880,044	41,434,801	50,262,896	38,506,762
Redeemable preferred stock	$1,598,533	$1,429,126	$1,272,441	$908,195	$–
Total stockholders' deficit	$21,858,761	$46,123,844	$23,653,090	$46,083,083	$35,928,984

(1) Includes all current and long term debt

(2) Includes all current and long term derivative liabilities

(3) Included all current and long term deferred revenue

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

Overview

Certain statements in this annual report on Form 10-K that are not historical in fact constitute "forward-looking statements." Words such as, but not limited to, "believe," "expect," "anticipate," "estimate," "intend," "plan," and similar expressions are intended to identify forward-looking statements. Such forward-looking statements involve known and unknown risks, uncertainties and other factors based on the Company's estimates and expectations concerning future events that may cause the actual results of the Company to be materially different from historical results or from any results expressed or implied by such forward-looking statements. These risks and uncertainties, as well as the Company's critical accounting policies, are discussed in more detail under "Management's Discussion and Analysis—Critical Accounting Policies" and in periodic filings with the Securities and Exchange Commission. The Company undertakes no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise.

You should read the following discussion of our financial condition and results of operations together with the audited financial statements and the notes to the audited financial statements included in this annual report. This discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results may differ materially from those anticipated in these forward-looking statements.

We are a biotechnology company focused on developing and commercializing human stem cell technology in the emerging fields of regenerative medicine and stem cell therapy. Principal activities to date have included obtaining financing, securing operating facilities, and conducting research and development. We have no therapeutic products currently available for sale and do not expect to have any therapeutic products commercially available for sale for a period of years, if at all. These factors indicate that our ability to continue research and development activities is dependent upon the ability of management to obtain additional financing as required.

Critical Accounting Policies

Our discussion and analysis of our financial condition and results of operations is based upon consolidated financial statements and condensed consolidated financial statements that we have prepared in accordance with U.S. generally accepted accounting principles, or U.S. GAAP. The preparation of these financial statements requires us to make a number of estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses in the condensed consolidated financial statements and accompanying notes included in this report. We base our estimates on historical information, when available, and assumptions 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 not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We believe the following accounting policies to be critical to the estimates used in the preparation of our financial statements.

Use of Estimates — These consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States and, accordingly, require management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Specifically, management has estimated loss contingencies related to outstanding litigation. In addition, management has estimated variables used to calculate the Black-Scholes option pricing model used to value derivative instruments as discussed below under “Fair Value Measurements”. Also, management has estimated the expected economic life and value of the our licensed technology, our net operating loss for tax purposes, share-based payments for compensation to employees, directors, consultants and investment banks, and the useful lives of the our fixed assets and its accounts receivable allowance. Actual results could differ from those estimates.

Deferred Issuance Cost—Payments, either in cash or share-based payments, made in connection with the sale of debentures are recorded as deferred debt issuance costs and amortized using the effective interest method over the lives of the related debentures.

Fair Value Measurements—For certain financial instruments, including accounts receivable, accounts payable, accrued expenses, interest payable and notes payable, the carrying amounts approximate fair value due to their relatively short maturities.

On January 1, 2008, we adopted FASB ASC 820-10, *"Fair Value Measurements and Disclosures."* FASB ASC 820-10 defines fair value, and establishes a three-level valuation hierarchy for disclosures of fair value measurement that enhances disclosure requirements for fair value measures. The carrying amounts reported in the consolidated balance sheets for receivables and current liabilities each qualify as financial instruments and are a reasonable estimate of their fair values because of the short period of time between the origination of such instruments and their expected realization and their current market rate of interest. The three levels of valuation hierarchy are defined as follows:

- Level 1 inputs to the valuation methodology are quoted prices for identical assets or liabilities in active markets.

- Level 2 inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.

- Level 3 inputs to the valuation methodology are unobservable and significant to the fair value measurement.

Management analyzes all financial instruments with features of both liabilities and equity under ASC 480, *"Distinguishing Liabilities From Equity"* and ASC 815, *"Derivatives and Hedging."* Derivative liabilities are adjusted to reflect fair value at each period end, with any increase or decrease in the fair value being recorded in results of operations as adjustments to fair value of derivatives. The effects of interactions between embedded derivatives are calculated and accounted for in arriving at the overall fair value of the financial instruments. In addition, the fair values of freestanding derivative instruments such as warrant and option derivatives are valued using the Black-Scholes model.

Revenue Recognition—Our revenue is generated from license and research agreements with collaborators. Licensing revenue is recognized on a straight-line basis over the shorter of the life of the license or the estimated economic life of the patents related to the license. Deferred revenue represents the portion of the license and other payments received that has not been earned. Costs associated with the license revenue are deferred and recognized over the same term as the revenue. Reimbursements of research expense pursuant to grants are recorded in the period during which collection of the reimbursement becomes assured, because the reimbursements are subject to approval.

Stock Based Compensation—We record stock-based compensation in accordance with ASC 718, "Compensation – Stock Compensation." ASC 718 requires companies to measure compensation cost for stock-based employee compensation at fair value at the grant date and recognize the expense over the employee's requisite service period. We recognize in the statement of operations the grant-date fair value of stock options and other equity-based compensation issued to employees and non-employees.

Comparison of Years Ended December 31, 2012 and 2011

	2012		2011	
	Amount	% of Revenue	Amount	% of Revenue
Revenue	$466,487	100.0 %	$506,419	100.0 %
Cost of revenue	117,436	25.2 %	343,950	67.9 %
Gross profit	349,051	74.8 %	162,469	32.1 %
Research and development expenses	11,034,836	2365.5 %	9,953,224	1965.4 %
General and administrative expenses	10,452,230	2240.6 %	11,025,459	2177.1 %
Loss on settlement of litigation	–	0.0 %	294,144	58.1 %
Non-operating income (expense)	(7,388,246)	-1583.8%	(51,684,761)	-10205.9%
Net loss	$(28,526,261)	-6115.1%	$(72,795,119)	-14374.5%

Revenue

Revenue relates to license fees and royalties collected that are being amortized over the period of the license granted, and are therefore typically consistent between periods. Revenue was $466,487 for the year ended December 31, 2012, which was a decrease of $39,932 or 8% compared to the year ended December 31, 2011. The decrease is due to license agreements that were terminated in 2011.

Research and Development Expenses and Grant Reimbursements

Research and development expenses ("R&D") consist mainly of facility costs, payroll and payroll related expenses, research supplies and costs incurred in connection with specific research grants, and for scientific research. R&D

expenditures for the year ended December 31, 2012 increased from $9,953,224 in 2011 to $11,034,836 in 2012 for an increase of $1,081,612 or 11%. The increase in R&D expenditures during 2012 as compared to 2011 was primarily due to an increase in clinical trial expenses of approximately $1,367,000, legal fees of approximately $485,000 and supplies of approximately $522,000 offset by a decrease in compensation of approximately $697,000 and consultant fees of approximately $311,000. Grants, which offset the research and development expense, have also increased by approximately $251,000 in 2012 as compared to 2011.

Our R&D expenses are primarily associated with basic and pre-clinical research exclusively in the field of human stem cell therapies and regenerative medicine, with focus on development of our technologies in cellular reprogramming, reduced complexity applications, and stem cell differentiation. These expenses represent both pre-clinical development costs and costs associated with non-clinical support activities such as quality control and regulatory processes. The cost of our research and development personnel is the most significant category of expense; however, we also incur expenses with third parties, including license agreements, sponsored research programs and consulting expenses.

We do not segregate R&D costs by project because our research is focused exclusively on human stem cell therapies as a unitary field of study. Although we have three principal areas of focus for our research, these areas are completely intertwined and have not yet matured to the point where they are separate and distinct projects. The intellectual property, scientists and other resources dedicated to these efforts are not separately allocated to individual projects, since the research is conducted on an integrated basis.

We expect that R&D expenses will increase in the foreseeable future as we add personnel, expand our pre-clinical research, continue clinical trial activities, and increase our regulatory compliance capabilities. The amount of these increases is difficult to predict due to the uncertainty inherent in the timing and extent of progress in our research programs, and initiation of clinical trials. In addition, the results from our basic research and pre-clinical trials, as well as the results of trials of similar therapeutics under development by others, will influence the number, size and duration of planned and unplanned trials. As our research efforts mature, we will continue to review the direction of our research based on an assessment of the value of possible commercial applications emerging from these efforts. Based on this continuing review, we expect to establish discrete research programs and evaluate the cost and potential for cash inflows from commercializing products, partnering with others in the biotechnology or pharmaceutical industry, or licensing the technologies associated with these programs to third parties.

We believe that it is not possible at this stage to provide a meaningful estimate of the total cost to complete our ongoing projects and bring any proposed products to market. The use of human embryonic stem cells as a therapy is an emerging area of medicine, and it is not known what clinical trials will be required by the FDA in order to gain marketing approval. Costs to complete could vary substantially depending upon the projects selected for development, the number of clinical trials required and the number of patients needed for each study. It is possible that the completion of these studies could be delayed for a variety of reasons, including difficulties in enrolling patients, delays in manufacturing, incomplete or inconsistent data from the pre-clinical or clinical trials, and difficulties evaluating the trial results. Any delay in completion of a trial would increase the cost of that trial, which would harm our results of operations. Due to these uncertainties, we cannot reasonably estimate the size, nature nor timing of the costs to complete, or the amount or timing of the net cash inflows from our current activities. Until we obtain further relevant pre-clinical and clinical data, we will not be able to estimate our future expenses related to these programs or when, if ever, and to what extent we will receive cash inflows from resulting products.

General and Administrative Expenses

General and administrative expenses for the year ended December 31, 2012 compared to the year ended December 31, 2011 decreased by $573,229 to $10,452,230 in 2012 compared to $11,025,459 for the year ended December 31, 2011. This decrease was primarily a result of a decrease in consultant expenses of approximately $1,292,000 and offset by an increase in legal fees of approximately $635,000 and board of directors compensation of $72,000.

Other Income (Expense)

Other income (expense) consisted of the following:

	2012	2011	$ Change	% Change
Interest income	15,581	35,114	(19,533)	-56 %
Interest expense and late fees	(1,104,602)	(1,510,693)	406,091	27 %
Finance cost	(3,671,970)	(60,834,170)	57,162,200	94 %
Gain (loss) on disposal of fixed assets	(17,138)	–	(17,138)	-100 %
Loss attributable to equity method investment	–	(820,000)	820,000	100 %

Fines and penalties	(3,500,000)	–	(3,500,000)	-100 %
Adjustments to fair value of derivatives	889,883	11,444,988	(10,555,105)	-92 %
Total non-operating income (expense)	(7,388,246)	(51,684,761)	44,296,515	

Interest expense for the year ended December 31, 2012 compared to the year ended December 31, 2011 decreased by $406,091 to $1,104,602 in 2012 compared to $1,510,693 in 2011. The decrease is due to a decrease in amortization of debt discounts for the year ended 2012 of $406,091.

The change in finance costs during the year ended December 31, 2012, compared to that of 2011, relates primarily to settlements. During the year ended December 31, 2011, we incurred approximately $52,095,000 in financing costs due to settlements and pending litigation with Midsummer Investments, Alpha Capital, Black Mountain Equities, Cranshire Capital, CAMOFI, and various investors as part of the Global Settlement resulting from ratchet down provisions in their respective warrant agreements. We also incurred approximately 5,850,000 of finance costs related to a separate litigation claim related to the issuance of warrants for a settlement agreement. The finance charges for the year ended December 31, 2012 consist of $3,586,000 related to the final settlement with Alpha Capital plus approximately an additional $2,887,000 related to the final settlement with CAMOFI offset by a decrease in the estimate of the potential claims of approximately $2,801,000 due to the decrease in the final number of shares issued for the settlements and the decrease in our stock price from $0.08 at December 31, 2011 to $0.06 at December 31, 2012.

Fines and penalties increased by $3,500,000 for the year ended December 31, 2012 compared to December 31, 2011 due to us being named as a defendant in a civil action brought by the Securities and Exchange Commission alleging that the we violated the Securities Act of 1933 because certain sales of shares to outside organizations completed in 2008 and 2009 were neither registered under the Securities act nor subject to an exemption.

Adjustment to fair value of derivatives changed from a gain of $11,444,988 during the year ended December 31, 2011, to a gain of $889,883 during the year ended December 31, 2012. The change of $10,555,105 is primarily because during the year ended December 31, 2011 the number of warrants was reduced from 134,931,000 warrants outstanding at December 31, 2010 to approximately 21,757,000 at December 31, 2011 along with a decrease in our share price from $0.08 at December 31, 2011 to $0.06 at December 31, 2012. However during the year ended December 31, 2012, the number of warrants outstanding did not change from the outstanding amount at December 31, 2011. Our share price decreased from $0.08 at December 31, 2011 to $0.06 at December 31, 2012 which resulted in a decrease in derivative fair value of approximately $890,000.

Comparison of the Years Ended December 31, 2011 and 2010

	2011		2010	
	Amount	% of Revenue	Amount	% of Revenue
Revenue	$506,419	100.0 %	$725,044	100.0 %
Cost of revenue	343,950	67.9 %	216,600	29.9 %
Gross profit	162,469	32.1 %	508,444	70.1 %
Research and development expenses	9,953,224	1965.4 %	7,461,426	1029.1 %
General and administrative expenses	11,025,459	2177.1 %	15,506,191	2138.7 %
Loss on settlement of litigation	294,144	58.1 %	11,132,467	1535.4 %
Change in estimate of accrued liabilities	–	0.0 %	(1,263,009)	-174.2 %
Non-operating income (expense)	(51,684,761)	-10205.9%	(22,044,701)	-3040.5 %
Net loss	$(72,795,119)	-14374.5%	$(54,373,332)	-7499.3 %

Revenue

Revenue relates to license fees and royalties collected that are being amortized over the period of the license granted, and are therefore typically consistent between periods. The decrease in revenue during the year ended December 31, 2011, was due to license agreements that were terminated in 2011 that were recognized in 2010 revenue.

Research and Development Expenses and Grant Reimbursements

Research and development expenses ("R&D") consist mainly of facility costs, payroll and payroll related expenses, research supplies and costs incurred in connection with specific research grants, and for scientific research. R&D expenditures increased from $7,461,426 in 2010 to $9,953,224 for 2011. The increase in R&D expenditures during 2011 as compared to 2010 was primarily due to an increase in compensation of approximately $1,800,000, clinical trials increases of approximately $401,000, offset by decreases in legal expenses of approximately $325,000 and outside services of approximately $441,000.

Our R&D expenses are primarily associated with basic and pre-clinical research exclusively in the field of human stem cell therapies and regenerative medicine, with focus on development of our technologies in cellular reprogramming, reduced complexity applications, and stem cell differentiation. These expenses represent both pre-clinical development costs and costs associated with non-clinical support activities such as quality control and regulatory processes. The cost of our research and development personnel is the most significant category of expense; however, we also incur expenses with third parties, including license agreements, sponsored research programs and consulting expenses.

We do not segregate R&D costs by project because our research is focused exclusively on human stem cell therapies as a unitary field of study. Although we have three principal areas of focus for our research, these areas are completely intertwined and have not yet matured to the point where they are separate and distinct projects. The intellectual property, scientists and other resources dedicated to these efforts are not separately allocated to individual projects, since the research is conducted on an integrated basis.

We expect that R&D expenses will increase in the foreseeable future as we add personnel, expand our pre-clinical research, continue clinical trial activities, and increase our regulatory compliance capabilities. The amount of these increases is difficult to predict due to the uncertainty inherent in the timing and extent of progress in our research programs, and initiation of clinical trials. In addition, the results from our basic research and pre-clinical trials, as well as the results of trials of similar therapeutics under development by others, will influence the number, size and duration of planned and unplanned trials. As our research efforts mature, we will continue to review the direction of our research based on an assessment of the value of possible commercial applications emerging from these efforts. Based on this continuing review, we expect to establish discrete research programs and evaluate the cost and potential for cash inflows from commercializing products, partnering with others in the biotechnology or pharmaceutical industry, or licensing the technologies associated with these programs to third parties.

We believe that it is not possible at this stage to provide a meaningful estimate of the total cost to complete our ongoing projects and bring any proposed products to market. The use of human embryonic stem cells as a therapy is an emerging area of medicine, and it is not known what clinical trials will be required by the FDA in order to gain marketing approval. Costs to complete could vary substantially depending upon the projects selected for development, the number of clinical trials required and the number of patients needed for each study. It is possible that the completion of these studies could be delayed for a variety of reasons, including difficulties in enrolling patients, delays in manufacturing, incomplete or inconsistent data from the pre-clinical or clinical trials, and difficulties evaluating the trial results. Any delay in completion of a trial would increase the cost of that trial, which would harm our results of operations. Due to these uncertainties, we cannot reasonably estimate the size, nature nor timing of the costs to complete, or the amount or timing of the net cash inflows from our current activities. Until we obtain further relevant pre-clinical and clinical data, we will not be able to estimate our future expenses related to these programs or when, if ever, and to what extent we will receive cash inflows from resulting products.

General and Administrative Expenses

General and administrative expenses for 2011 compared to 2010 decreased by $4,480,732 to $11,025,459 in 2011. This expense decrease was primarily a result of decrease in compensation and stock issued for services from the prior year. During 2010, we issued shares of our stock to our Chief Executive Officer and directors and issued stock options to employees, for a total increase in G&A salaries, bonuses and option compensation of $10.8 million. During 2011, the compensation expense decreased by approximately $4,800,000. Our legal fees increased by approximately $321,000 due to the litigation relating to the holders of debenture and warrant holders we issued in 2005 through 2008.

Change in Estimate of Accrued Liabilities

In the year ended December 31, 2011, we did not recognize any gain or loss from the change in estimate of accrued liabilities. We recognized income of $1,263,009 related to reversals in our estimates of accrued liabilities during the year ended December 31, 2010. This amount relates to prior accrued liabilities where our estimate was adjusted based on new information as it became available. This amount has been separately classified in operating expenses in the accompanying consolidated statement of operations.

Loss on Settlement of Litigation

In 2010, we settled a lawsuit with an investor, whereby we delivered to the investor 49,220,665 shares of our common stock. Further, on September 30, 2010, under the terms of a final settlement and mutual release with the same investor, we exchanged a new convertible debenture to the investor in exchange for the investor's outstanding convertible debenture. The terms of the new convertible debenture are the same as the former debenture held by the investor, except that the amounts under the debenture are due and payable on or before December 31, 2010 and June 30, 2011. Concurrently with the settlement and release, all common stock purchase warrants previously issued to the investor were cancelled (23,701,263 warrants in total) and the legal actions were dismissed. We recorded a loss on settlement in the amount of $3,132,300 during the year ended December 31, 2010 in the accompanying statement of operations.

On December 22, 2010, Optimus CGII, Ltd. ("Optimus") purchased a claim previously brought against us in a civil action by Alexandria Real Estate-79/96 Charlestown Navy Yard ("ARE"). In that action, ARE alleged that it was unable to relet premises that we had leased and vacated prior to the end of the lease term, and therefore sought rent for the vacated premises since September 2008. ARE also sought certain clean-up and storage expenses. On December 23, 2010, we settled the claim in exchange for our issuance of 55,688,368 shares of our common stock to Optimus. Accordingly, we recognized loss on settlement in the amount of $8,000,167 in our accompanying consolidated statements of operations for the year ended December 31, 2010. This settlement ended all claims previously brought against the Company by ARE and Optimus.

Other income (expense) consisted of the following:

	2011	2010	$ Change	% Change
Interest income	35,114	16,724	18,390	110 %
Interest expense and late fees	(1,510,693)	(11,726,120)	10,215,427	87 %
Finance cost	(60,834,170)	(4,332,277)	(56,501,893)	-1304%
Gain (loss) on disposal of fixed assets	–	9,500	(9,500)	-100 %
Gain on forgiveness of debt		197,370	(197,370)	-100 %
Loss attributable to equity method investment	(820,000)	–	(820,000)	-100 %
Adjustments to fair value of derivatives	11,444,988	(6,209,898)	17,654,886	284 %
Total non-operating income (expense)	(51,684,761)	(22,044,701)	(29,640,060)	

Interest expense decreased $10,215,427 from $11,726,120 to $1,510,693 due to the debentures that were redeemed during 2010. The average outstanding debt during 2010 was approximately $10,240,000 compared to 2011 of approximately $288,000.

Finance costs increased by $56,501,893 primarily due to the warrant and debenture settlements that occurred during the year. We have issued approximately 126.2 million shares related to settlements during 2011 and issued approximately 285.5 million shares on January 31, 2012 and February 7, 2012 which were accrued for as finance costs during the year ended December 31, 2011. We anticipate having to issue approximately an additional 135.5 million shares related to debenture settlements that were accrued for as finance costs at December 31, 2011.

Adjustment to fair value of derivatives changed from a loss of $6,209,898 in 2010 to a gain of $11,444,988 during 2011. The change of $17,654,886 is due to the fluctuation in our share price. At December 31, 2009 the share price was $0.09 and at December 31, 2010, the share price was $0.21. This increase in share price increased the derivative liability and we recorded a loss on the adjustment of the derivative liabilities. The share price at December 31, 2011

decreased from the December 31, 2010 share price of $0.21 to $0.08. This decrease in share price decreased the value of the derivative liability and we recorded a gain on the adjustment of the derivative liabilities.

Liquidity and Capital Resources

Cash Flows

The following table sets forth a summary of our cash flows for the periods indicated below:

	Year Ended December 31,		
	2012	2011	2010
Net cash used in operating activities	$(14,606,357)	$(13,627,287)	$(8,782,932)
Net cash used in investing activities	(111,350)	(36,830)	(219,998)
Net cash provided by financing activities	8,856,552	10,877,715	22,353,501
Net increase (decrease) in cash and cash equivalents	(5,861,155)	(2,786,402)	13,350,571
Cash and cash equivalents at the end of the period	$7,241,852	13,103,007	15,889,409

Operating Activities

Our net cash used in operating activities during the years ended December 31, 2012, 2011 and 2010 was $14,606,357, $13,627,287 and $8,782,932, respectively. Cash used in operating activities increased during the current period primarily due to an increase in operating expenditures.

Cash Used in Investing Activities

Cash used in investing activities during the years ended December 31, 2012, 2011 and 2010 was $111,350, $36,830 and $95,833, respectively. Our cash used in investing activities during the year ended December 31, 2012 was attributed to the purchase of fixed assets for approximately $96,260.

Cash Flows from Financing Activities

Cash flows provided by financing activities during the years ended December 31, 2012, 2011 and 2010 was $8,856,552, $10,877,715 and $22,353,501, respectively. During the year ended December 31, 2012, we received $6,000,000 from the issuance of 600 shares of Series C Preferred stock and $2,941,102 from the issuance of 47,052,000 shares to Lincoln Park as part of the $35,000,000 Purchase Agreement. We paid $84,550 for legal and accounting fees associated with the issuance of shares to Lincoln Park.

We plan to fund our operations for the foreseeable future from the following sources:

- As of December 31, 2012, we have approximately $7,241,852 in cash.
- As of December 31, 2012, approximately $1,580,000 is available to us upon our exercise of our option sell our Series A-1 preferred stock for a maximum placement commitment of $5 million subject to compliance with the transactions agreement.
- As of December 31, 2012, $7,500,000 is available to us upon the sale of our Series C preferred stock for a maximum placement commitment of $25,000,000 subject to compliance with the transactions agreement.
- As of December 31, 2012, $32,058,898 is available to us through the Lincoln Park financing arrangement.
- We continue to repay our debt financings in shares of common stock, enabling us to use our cash resources to fund our operations.

On a long term basis, we have no expectation of generating any meaningful revenues from our product candidates for a substantial period of time and will rely on raising funds in capital transactions to finance our research and

development programs. Our future cash requirements will depend on many factors, including the pace and scope of our research and development programs, the costs involved in filing, prosecuting and enforcing patents, and other costs associated with commercializing our potential products. We intend to seek additional funding primarily through public or private financing transactions, and, to a lesser degree, new licensing or scientific collaborations, grants from governmental or other institutions, and other related transactions. If we are unable to raise additional funds, we will be forced to either scale back our business efforts or curtail our business activities entirely. We anticipate that our available cash and expected income will be sufficient to finance most of our current activities for the foreseeable future. We cannot assure you that public or private financing or grants will be available on acceptable terms, if at all. Several factors will affect our ability to raise additional funding, including, but not limited to, the volatility of our common stock.

Contractual Obligations

Our significant contractual obligations, including the Marlborough lease entered into on January 11, 2013, are as follows:

	Less than One Year	One to Three Years	Three to Five Years	More Than Five Years	Total
Operating lease obligations	435,215	959,735	434,907	355,869	2,185,726
Convertible debt	287,785	–	–	–	287,785
Senior secured convertible promissory notes	2,400,000	3,600,000	–	–	6,000,000
Total	$3,123,000	$4,559,735	$434,907	$355,869	$8,473,511

Off-Balance Sheet Arrangements

We do not maintain any off-balance sheet arrangements, transactions, obligations or other relationships with unconsolidated entities that would be expected to have a material current or future effect upon our financial condition or results of operations.

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

Our exposure to market risk is limited primarily to interest income sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because a significant portion of our investments are in short-term debt securities issued by the U.S. government and institutional money market funds. The primary objective of our investment activities is to preserve principal. Due to the nature of our marketable securities, we believe that we are not exposed to any material market risk. We do not have any derivative financial instruments or foreign currency instruments. If interest rates had varied by 10% in the year ended December 31, 2012, it would not have had a material effect on our results of operations or cash flows for that period.

Item 8. Financial Statements and Supplementary Data.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders

Advanced Cell Technology, Inc. and subsidiary

We have audited the accompanying consolidated balance sheets of Advanced Cell Technology, Inc. and subsidiary as of December 31, 2012 and 2011, and the related consolidated statements of operations, stockholders' deficit and cash flows for each of the three years in the period ended December 31, 2012. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

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

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Advanced Cell Technology, Inc. and subsidiary as of December 31, 2012 and 2011, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2012, in conformity with U.S. generally accepted accounting principles.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Advanced Cell Technology, Inc. and subsidiary's internal control over financial reporting as of December 31, 2012, based on criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 7, 2013 expressed an unqualified opinion on the effectiveness of Advanced Cell Technology, Inc. and subsidiary's internal control over financial reporting.

/s/ SingerLewak LLP

Los Angeles, California

March 7, 2013

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ADVANCED CELL TECHNOLOGY, INC. AND SUBSIDIARY

CONSOLIDATED BALANCE SHEETS

AS OF DECEMBER 31, 2012 AND 2011

	December 31, 2012	**December 31,** 2011
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$7,241,852	$ 13,103,007
Grants receivable	96,425	–
Deferred royalty fees, current portion	82,435	62,435
Prepaid expenses	132,044	241,248
Total current assets	7,552,756	13,406,690
Property and equipment, net	175,256	154,771
Deferred royalty fees, less current portion	170,216	232,652
Deposits	29,856	14,766
Deferred costs, net of amortization of $5,662,543 and $4,854,556, respectively	568,458	1,376,447
TOTAL ASSETS	$8,496,542	$ 15,185,326
LIABILITIES AND STOCKHOLDERS' DEFICIT		
CURRENT LIABILITIES:		
Accounts payable	$2,956,743	$ 2,128,562
Accrued expenses	3,210,908	2,538,545
Accrued settlement	6,807,891	34,155,552
Convertible promissory notes, current portion net of discounts of $30,935 and $0, respectively	256,850	–
Senior secured convertible promissory notes, current portion, net of discount of $290,000 and $0, respectively	2,110,000	–
Embedded conversion option liabilities, current portion	460,668	–
Loss contingency accrual	6,176,787	16,704,169
Deferred revenue, current portion	224,935	222,739
Total current liabilities	22,204,782	55,749,567
Convertible promissory notes, net of discounts of $0 and $158,142, respectively	–	129,643
Senior secured convertible promissory notes, less current portion, net of discount of $435,000 and $0, respectively	3,165,000	–
Embedded conversion option liabilities, less current portion	507,033	253,530
Warrant and option derivative liabilities	972,381	1,671,047
Deferred revenue, less current portion	1,907,574	2,076,257
Total liabilities	28,756,770	59,880,044

Series A-1 redeemable preferred stock, $0.001 par value; 50,000,000 shares authorized, 113 shares issued and outstanding; aggregate liquidation value, net of discounts: $1,607,497 and $1,472,262, respectively	1,598,533	1,429,126
Commitments and contingencies		
STOCKHOLDERS' DEFICIT:		
Preferred stock, Series B; $0.001 par value; 50,000,000 shares authorized, 1,000 shares issued and outstanding	1	1
Preferred stock, Series C; $0.001 par value; 50,000,000 shares authorized, 1,750 and 1,150 shares issued and outstanding	2	1
Common stock, $0.001 par value; 2,750,000,000 shares authorized, 2,232,720,779 and 1,743,569,255 shares issued and outstanding	2,232,721	1,743,569
Additional paid-in capital	289,842,597	229,319,208
Promissory notes receivable, net of discount of $3,776,528 and $4,278,016, respectively	(31,622,696)	(23,381,185)
Accumulated deficit	(282,311,386)	(253,805,438)
Total stockholders' deficit	(21,858,761)	(46,123,844)
TOTAL LIABILITIES AND STOCKHOLDERS' DEFICIT	$8,496,542	$ 15,185,326

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

ADVANCED CELL TECHNOLOGY, INC. AND SUBSIDIARY

CONSOLIDATED STATEMENTS OF OPERATIONS

FOR THE YEARS ENDED DECEMBER 31, 2012, 2011 AND 2010

	2012	2011	2010
Revenue (License fees and royalties)	$466,487	506,419	725,044
Cost of Revenue	117,436	343,950	216,600
Gross profit	349,051	162,469	508,444
Operating expenses:			
Research and development	11,034,836	9,953,224	7,461,426
General and administrative expenses	10,452,230	11,025,459	15,506,191
Change in estimate of accrued liabilities	–	–	(1,263,009)
Loss on settlement of litigation	–	294,144	11,132,467
Total operating expenses	21,487,066	21,272,827	32,837,075
Loss from operations	(21,138,015)	(21,110,358)	(32,328,631)
Non-operating income (expense):			
Interest income	15,581	35,114	16,724
Interest expense and late fees	(1,104,602)	(1,510,693)	(11,726,120)
Finance gain (cost)	(3,671,970)	(60,834,170)	(4,332,277)
Gain (loss) on disposal of fixed assets	(17,138)	–	9,500
Gain on forgiveness of debt	–	–	197,370
Loss attributable to equity method investments	–	(820,000)	–
Fines and penalties	(3,500,000)	–	–
Adjustments to fair value of derivatives	889,883	11,444,988	(6,209,898)
Total non-operating expense	(7,388,246)	(51,684,761)	(22,044,701)
Loss before provision for income tax	(28,526,261)	(72,795,119)	(54,373,332)
Provision for income tax	–	–	–
Net loss	$(28,526,261)	$(72,795,119)	$(54,373,332)
Weighted average shares outstanding :			
Basic and diluted	2,086,619,741	1,582,095,095	1,218,190,921
Loss per share:			
Basic and diluted	$(0.01)	$(0.05)	$(0.04)

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

ADVANCED CELL TECHNOLOGY, INC. AND SUBSIDIARY

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIT

FOR THE YEARS ENDED DECEMBER 31, 2012, 2011 AND 2010

	Series B Preferred Stock		Series C Preferred Stock		Common Stock		Additional Paid-in	Promissory Notes Receivables,	Accumulated	Tot Sto
	Shares	Amount	Shares	Amount	Shares	Amount	Capital	net	Deficit	Def
Balance December 31, 2009	–	$ –	–	$ –	663,649,294	$ 663,649	$ 79,829,080	$ –	$ (126,575,812)	$ (4
Redemptions of convertible debentures	–	–	–	–	144,311,100	144,311	9,582,742	–	–	9,
Conversions of convertible debentures	–	–	–	–	34,822,169	34,822	3,379,286	–	–	3,
Conversions of Series A-1 preferred stock	–	–	–	–	6,206,961	6,207	614,489	–	–	62
Conversions of amended convertible promissory notes	–	–	–	–	211,916,152	211,916	9,545,273	–	–	9,
Common stock issued on exercise of warrants	–	–	–	–	36,390,745	36,391	12,805,631	–	–	12
Common stock issued to executives for compensation	–	–	–	–	107,051,697	107,052	9,527,601	–	–	9,
Common stock issued to directors for board compensation	–	–	–	–	16,773,597	16,774	1,543,439	–	–	1,
Common stock issued for	–	–	–	–	120,875,143	120,875	13,760,283	–	–	13

settlements										
Issuance of stock for financing costs	–	–	–	–	1,959,142	1,959	396,552	–	–	39
Issuance of Series B preferred stock	1,000	1	–	–	–	–	9,999,999	–	–	10
Common stock issued upon exercise of Series B preferred stock warrants	–	–	–	–	95,870,362	95,870	9,884,893	(9,980,763)	–	–
Dividends on Series B preferred stock	–	–	–	–	–	–	196,986	–	(196,986)	–
Issuance of Series C preferred stock	–	–	400	–	–	–	4,000,000	–	–	4,
Accretion of note receivable discount	–	–	–	–	–	–	–	(196,607)	196,607	–
Option compensation charges	–	–	–	–	–	–	967,722	–	–	96
Net loss for year ended December 31, 2010	–	–	–	–	–	–	–	–	(54,373,332)	(5
Balance December 31, 2010	1,000	$ 1	400	$ –	1,439,826,362	$ 1,439,826	$ 166,033,976	$ (10,177,370)	$ (180,949,523)	$ (2
Convertible debenture redemptions	–	–	–	–	1,519,077	1,519	150,390	–	–	15
Shares issued for compensation	–	–	–	–	15,571,152	15,571	2,658,389	–	–	2,
Shares issued for accrued liabilities	–	–	–	–	23,205,895	23,206	2,998,693	–	–	3,
Common stock issued for settlements recorded as	–	–	–	–	133,645,953	133,646	22,029,270	–	–	22

financing costs										
Warrant exercises	–	–	–	–	37,477,368	37,478	10,246,139	–	–	10
Option exercises	–	–	–	–	1,386,126	1,386	196,276	–	–	19
Shares issued for services	–	–	–	–	2,381,406	2,381	473,519	–	–	47
Accrued dividends on Series B and C Preferred Stock	–	–	–	–	–	–	1,432,661	–	(1,432,661)	–
Accretion of note receivable discount	–	–	–	–	–	–	–	(1,371,865)	1,371,865	–
Series B and C Preferred Stock Option compensation charges	–	–	–	–	–	–	3,856,502	–	–	3,
Issuance of Series C preferred stock	–	–	750	1	–	–	7,499,999	–	–	7,
Issuance of Common Stock to Series C Preferred Stock holder for note receivable	–	–	–	–	73,796,597	73,797	9,786,161	(9,859,958)	–	-
Common stock issued upon exercise of Series C Preferred Stock warrants and issuance of note receivable	–	–	–	–	14,759,319	14,759	1,957,233	(1,971,992)	–	–
Net loss for the year ended December 31, 2011	–	–	–	–	–	–	–	–	(72,795,119)	(7
Balance December 31,	1,000	$ 1	1,150	$ 1	1,743,569,255	$ 1,743,569	$ 229,319,208	$ (23,381,185)	$ (253,805,438)	$ (4

2011										
Shares issued for settlements	–	–	–	–	330,690,982	330,692	38,096,321	–	–	38
Shares issued for services	–	–	–	–	14,077,873	14,078	1,802,552	–	–	1,
Accrued dividends on Series B and C Preferred Stock	–	–	–	–	–	–	2,048,007	–	(2,048,007)	–
Accretion of note receivable discount on Series B and C Preferred Stock	–	–	–	–	–	–	–	(2,068,320)	2,068,320	–
Option compensation charges	–	–	–	–	–	–	3,691,149	–	–	3,
Issuance of Series C preferred stock	–	–	600	1	–	–	5,999,999	–	–	6,
Issuance of Common Stock to Series C Preferred Stock holder for note receivable	–	–	–	–	73,817,224	73,817	5,070,509	(5,144,326)	–	–
Common stock issued upon exercise of Series C Preferred Stock warrants and issuance of note receivable	–	–	–	–	14,763,445	14,763	1,014,102	(1,028,865)	–	–
Issuance of 47,052,000 shares of common stock	–	–	–	–	47,052,000	47,052	2,809,500	–	–	2,
Issuance of 8,750,000 shares as a commitment	–	–	–	–	8,750,000	8,750	(8,750)	–	–	–

fee										
Net loss for the year ended December 31, 2012	–	–	–	–	–	–	–	–	(28,526,261)	(2
Balance December 31, 2012	1,000	$ 1	1,750	$ 2	2,232,720,779	$ 2,232,721	$ 289,842,597	$ (31,622,696)	$ (282,311,386)	$ (2

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

ADVANCED CELL TECHNOLOGY, INC. AND SUBSIDIARY

CONSOLIDATED STATEMENTS OF CASH FLOWS

FOR THE YEARS ENDED DECEMBER 31, 2012, 2011 AND 2010

	2012	2011	2010
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	$ (28,526,261)	$ (72,795,119)	$ (54,373,332)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	58,637	67,161	138,050
Amortization of deferred charges	117,436	91,600	91,600
Amortization of deferred revenue	(466,487)	(506,419)	(725,044)
Redeemable preferred stock dividend accrual	135,235	122,605	95,883
Stock based compensation	3,691,149	3,856,501	967,721
Amortization of deferred issuance costs	807,989	1,201,741	617,568
Amortization of discounts	161,379	180,172	12,443,112
Adjustments to fair value of derivatives	(889,883)	(11,444,988)	6,209,898
Shares of common stock issued for services	–	475,900	11,194,866
Shares of common stock issued for compensation	1,816,630	2,673,960	55,168
Non-cash financing costs	3,671,970	60,834,170	3,375,745
Loss on settlement of litigation	–	294,144	11,132,467
Gain on forgiveness of debt	–	–	(197,370)
(Gain) Loss on disposal of fixed assets	17,138	–	(9,500)
Amortization of deferred joint venture obligations	–	(6,870)	(56,602)
Warrant and options issued for consulting services	60,388	834,443	–
Changes in operating assets and liabilities			
Grants receivable	(96,425)	–	–
Prepaid expenses and other current assets	34,204	(241,248)	9,054
Deferred revenue	300,000	–	150,000
Accounts payable and other current liabilities	4,500,544	734,960	97,784
Net cash used in operating activities	(14,606,357)	(13,627,287)	(8,782,932)
CASH FLOWS FROM INVESTING ACTIVITIES			
Purchases of property and equipment	(96,260)	(36,830)	(207,402)
Payment of lease deposits	(15,090)	–	(12,596)
Net cash used in investing activities	(111,350)	(36,830)	(219,998)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from exercise of warrants and options	–	3,377,715	719,636
Proceeds from issuance of convertible debentures	–	–	1,685,000
Proceeds from convertible promissory notes	–	–	5,880,000
Proceeds from issuance of preferred stock	6,000,000	7,500,000	14,068,865
Proceeds from issuance of common stock	2,941,102	–	–
Costs associated with issuance of common stock	(84,550)	–	–

Net cash provided by financing activities	8,856,552	10,877,715	22,353,501
NET DECREASE IN CASH AND CASH EQUIVALENTS	(5,861,155)	(2,786,402)	13,350,571
CASH AND CASH EQUIVALENTS, BEGINNING BALANCE	13,103,007	15,889,409	2,538,838
CASH AND CASH EQUIVALENTS, ENDING BALANCE	$ 7,241,852	$ 13,103,007	$ 15,889,409
CASH PAID FOR:			
Interest	$ –	$ –	$ –
Income taxes	$ –	$ –	$ 5,353
SUPPLEMENTAL DISCLOSURE OF NON-CASH FINANCING ACTIVITIES:			
Issuance of 0, 1,519,077 and 144,311,100 shares of common stock in redemption of debt	$ –	151,909	$ 9,727,053
Issuance of note receivable on issuance of shares and exercise of warrants for 88,580,669, 88,555,916 and 95,870,362 shares of common stock	$ 7,200,000	$ 13,800,000	$ 13,500,000
Record note receivable discount related to Series C preferred stock	$ (1,026,809)	$ (1,968,050)	$ (3,519,238)
Accrued dividends on Series B and C Preferred Stock	$ 2,048,007	$ 1,432,661	$ 196,986
Accretion of note receivable discount on Series B and C Preferred Stock	$ 2,068,320	$ 1,371,865	$ 196,607
Issuance of 0, 3,252,066 and 32,589,112 shares of common stock for cashless exercise of warrants	$ –	$ 1,156,861	$ 12,188,685
Issuance of 0, 636,126 and 0 shares of common stock for exercise of options	$ –	$ 160,162	$ –
Issuance of 0, 30,618,895 and 0 shares of common stock for accrued liabilities	$ –	$ 6,521,899	$ –
Issuance of 330,690,982, 126,232,953 and 0 shares of common stock for accrued settlement	$ 38,427,013	$ 18,662,916	$ –
Issuance of 8,750,000, 0, and 0 shares of common stock as commitment fee for securities purchase agreement	$ 700,000	$ –	$ –
Issuance of senior secured convertible promissory notes for settlement	$ 6,000,000	$ –	$ –

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

ADVANCED CELL TECHNOLOGY, INC. AND SUBSIDIARY

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2012, 2011 and 2010

1. ORGANIZATIONAL MATTERS

Organization and Nature of Business

Advanced Cell Technology, Inc. (the "Company") is a biotechnology company, incorporated in the state of Delaware, focused on developing and commercializing human embryonic and adult stem cell technology in the emerging fields of regenerative medicine. Principal activities to date have included obtaining financing, securing operating facilities, and conducting research and development. The Company has no therapeutic products currently available for sale and does not expect to have any therapeutic products commercially available for sale for a period of years, if at all. These factors indicate that the Company's ability to continue its research and development activities is dependent upon the ability of management to obtain additional financing as required.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation —The Company follows accounting standards set by the Financial Accounting Standards Board ("FASB"). The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP"). References to GAAP issued by the FASB in these footnotes are to the FASB Accounting Standards Codification,™ sometimes referred to as the Codification or ASC.

Principles of Consolidation — The accounts of the Company and its wholly-owned subsidiary Mytogen, Inc. ("Mytogen") are included in the accompanying consolidated financial statements. All intercompany balances and transactions were eliminated in consolidation.

Segment Reporting —ASC 280, *"Segment Reporting"* requires use of the "management approach" model for segment reporting. The management approach model is based on the way a company's management organizes segments within the company for making operating decisions and assessing performance. The Company determined it has one operating segment. Disaggregation of the Company's operating results is impracticable, because the Company's research and development activities and its assets overlap, and management reviews its business as a single operating segment. Thus, discrete financial information is not available by more than one operating segment.

Use of Estimates — These consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States and, accordingly, require management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Specifically, the Company's management has estimated loss contingencies related to outstanding litigation. In addition, Management has estimated variables used to calculate the Black-Scholes option pricing model used to value derivative instruments as discussed below under "Fair Value Measurements". Also, management has estimated the expected economic life and value of the Company's licensed technology, the Company's net operating loss for tax purposes, share-based payments for compensation to employees, directors, consultants and investment banks, and the useful lives of the Company's fixed assets and its accounts receivable allowance. Actual results could differ from those estimates.

Reclassifications — Certain prior period financial statement balances have been reclassified to conform to the current period presentation.

Cash and Cash Equivalents — Cash equivalents are comprised of certain highly liquid investments with maturities of three months or less when purchased. The Company maintains its cash in bank deposit accounts, which at times, may exceed federally insured limits. The Company has not experienced any losses related to this concentration of risk. As of December 31, 2012 and 2011, the Company had deposits in excess of federally-insured limits totaling $5,147,037 and $12,037,949, respectively.

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Grant Received — From time to time the Company participates in research grants both as an initiator of grants as well as a sub-recipient of grant funds. The Company incurs costs for the grant and is subsequently reimbursed for these expenses by grant receipts. The Company records such receipts as a reduction in research and development costs. For the years ended December 31, 2012, 2011 and 2010, the Company recorded as a reduction in research and development costs, $320,112, $68,639 and $977,917, respectively.

Grants Receivable — The Company periodically assesses its grants receivable for collectability on a specific identification basis. If collectability of an account becomes unlikely, the Company records an allowance for that doubtful account. Once the Company has exhausted efforts to collect, management writes off the grants receivable against the allowance it has already created.

Property and Equipment — The Company records its property and equipment at historical cost. The Company expenses maintenance and repairs as incurred. Upon disposition of property and equipment, the gross cost and accumulated depreciation are written off and the difference between the proceeds and the net book value is recorded as a gain or loss on sale of assets. In the case of certain assets acquired under capital leases, the assets are recorded net of imputed interest, based upon the net present value of future payments. Assets under capital lease are pledged as collateral for the related lease.

The Company provides for depreciation over the assets' estimated useful lives as follows:

Machinery & equipment	4 years
Computer equipment	3 years
Office furniture	4 years
Leasehold improvements	Lesser of lease life or economic life
Capital leases	Lesser of lease life or economic life

Patents — The Company follows ASC 350-30 *"General Intangibles Other than Goodwill"* in accounting for its patents. ASC 350-30 provides that costs of internally developing, maintaining, or restoring intangible assets that are not specifically identifiable, that have indeterminate lives, or that are inherent in a continuing business and related to an entity as a whole, shall be recognized as an expense when incurred. The Company has expensed as research and development expense all costs associated with developing its patents.

Equity Method Investment — The Company follows ASC 323 *"Investments-Equity Method and Joint Ventures"* in accounting for its investment in the joint venture. In the event the Company's share of the joint venture's net losses reduces the Company's investment to zero, the Company will discontinue applying the equity method and will not provide for additional losses unless the Company has guaranteed obligations of the joint venture or is otherwise committed to provide further financial support for the joint venture. If the joint venture subsequently reports net income, the Company will resume applying the equity method only after its share of that net income equals the share of net losses not recognized during the period the equity method was suspended.

Deferred Costs — Consist of the following:

(a) Payments, either in cash or share-based, made in connection with the sale of debentures which are amortized using the effective interest method over the lives of the related debentures. These deferred issuance costs are charged to financing costs when and if the related debt instrument is retired or converted early. The weighted average amortization period for deferred debt issuance costs is 48 months.

(b) Payments made to secure commitments under certain financing arrangements. These amounts are recognized in financing costs ratably over the period of the financing arrangements, and are recognized in financing costs immediately if the arrangement is cancelled, forfeited or the utility of the arrangement to the company is otherwise compromised.

(c) Payments made to financial institutions and consulting firms in order to provide financing related services. These costs are being amortized over the terms of the related agreements.

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Long-Lived Assets— The Company follows ASC 360-10, *"Property, Plant, and Equipment,"* which established a "primary asset" approach to determine the cash flow estimation period for a group of assets and liabilities that represents the unit of accounting for a long-lived asset to be held and used. Long-lived assets to be held and used are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The carrying amount of a long-lived asset is not recoverable if it exceeds the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset. Long-lived assets to be disposed of are reported at the lower of carrying amount or fair value less cost to sell. Through December 31, 2012, the Company had not experienced impairment losses on its long-lived assets.

Fair Value Measurements — The Company applies the provisions of ASC 820-10, *"Fair Value Measurements and Disclosures."* ASC 820-10 defines fair value, and establishes a three-level valuation hierarchy for disclosures of fair value measurement that enhances disclosure requirements for fair value measures. For certain financial instruments, including cash and cash equivalents, grants receivable, prepaid expenses, accounts payable and accrued expenses, the carrying amounts approximate fair value due to their relatively short maturities. The three levels of valuation hierarchy are defined as follows:

· Level 1 inputs to the valuation methodology are quoted prices for identical assets or liabilities in active markets.

· Level 2 inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.

· Level 3 inputs to the valuation methodology are unobservable and significant to the fair value measurement.

The Company analyzes all financial instruments with features of both liabilities and equity under ASC 480, *"Distinguishing Liabilities From Equity"* and ASC 815, *"Derivatives and Hedging."* Derivative liabilities are adjusted to reflect fair value at each period end, with any increase or decrease in the fair value being recorded in results of operations as adjustments to fair value of derivatives. The effects of interactions between embedded

derivatives are calculated and accounted for in arriving at the overall fair value of the financial instruments. In addition, the fair values of freestanding derivative instruments such as warrant and option derivatives are valued using the Black-Scholes model.

The Company uses Level 2 inputs for its valuation methodology for the warrant derivative liabilities and certain embedded conversion option liabilities as their fair values were determined by using the Black-Scholes option pricing model based on various assumptions. The Company's derivative liabilities are adjusted to reflect fair value at each period end, with any increase or decrease in the fair value being recorded in results of operations as adjustments to fair value of derivatives.

The Company uses Level 3 inputs for its valuation methodology for the fair value of certain embedded conversion options and senior secured convertible promissory notes.

The Company estimates the fair value of its 8% convertible debentures using a binomial lattice, which estimates and compares the present value of the principal and interest payments to the as converted value to determine whether the holder of the notes should convert the notes into the Company's common stock or continue to receive principal and interest payments. The Company uses this methodology to determine the fair value of the notes and corresponding beneficial conversion features because there are no observable inputs available with respect to the fair value.

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The binomial lattice relies on the following Level 3 inputs: (1) expected volatility of our common stock; (2) potential discount for illiquidity of large blocks of our common stock, and (3) discount rate for contractual debt principal and interest payments. The fair value of the embedded beneficial conversion feature is estimated as the difference between the fair value of the notes with and without the conversion feature. The fair value of the notes without the conversion feature is determined using one Level 3 input, the discount rate for contractual debt interest and principal payments.

- The expected volatility of the Company's common stock is estimated from the historical volatility of daily returns in the Company's common stock price. The Company monitors the volatility of its common stock on a quarterly basis to observe trends that many impact the fair value of the notes.

- The discount for illiquidity is measured using an average-strike option that calculates the discount as the opportunity cost for not being able to sell a large block of the Company's common stock immediately at prevailing observable market prices. Inputs to the average-strike option model include the expected volatility of the Company's common stock and time to sell a large block of the Company's stock as Level 3 inputs and other observable inputs. The time to sell the stock is estimated considering the historical daily trading volume of our common stock and market maker estimates of the amount of shares that can be offered for sale above the normal the daily trading volume without depressing the price of the Company's common stock. We monitor the trading volume of the Company's common stock on a quarterly basis to observe trends that many impact the fair value of the notes.

- The discount rate for contractual debt interest and principal payments is estimated considering the security of the payments as stated in the debenture agreements, the Company's credit standing, and yields to maturity of comparable securities. The Company monitors credit spreads, lending rates for companies that are at a similar stage of development, and the Company's credit standing on a quarterly basis to observe trends that many impact the fair value of the notes.

The fair value of the notes will fluctuate with changes in the Company's stock price, short- and long-term interest rates, observed yields on comparable securities, the volatility of the Company's common stock, the trading volume of the Company's common stock, the Company's credit standing and financial resources to satisfy the required interest and principal payments on the notes, and passage of time.

At December 31, 2012, the Company identified the following assets and liabilities that are required to be presented on the balance sheet at fair value:

Description	Fair Value As of December 31, 2012	Fair Value Measurements at December 31, 2012 Using Fair Value Hierarchy		
		Level 1	Level 2	Level 3
Warrant and option derivative liabilities	$972,381	$–	972,381	–
Embedded conversion option liabilities	967,701	–	122,701	845,000
Senior secured convertible promissory notes	5,275,000	–		5,275,000
Total	$7,215,082	$–	1,095,082	6,120,000

At December 31, 2011, the Company identified the following assets and liabilities that are required to be presented on the balance sheet at fair value:

Derivative Liabilities	Fair Value As of December 31, 2011	Fair Value Measurements at December 31, 2011 Using Fair Value Hierarchy		
		Level 1	Level 2	Level 3
Warrant and option derivative liabilities	$1,671,047	$–	1,671,047	–
Embedded conversion option liabilities	253,530	–	253,530	–
Total derivative liabilities	$1,924,577	$–	1,924,577	–

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For the years ended December 31, 2012, 2011 and 2010 the Company recognized a gain (loss) of $889,883, 11,444,988 and ($6,209,898), respectively, for the changes in the valuation of derivative liabilities.

The Company did not identify any non-recurring assets and liabilities that were recorded at fair value during the periods presented.

Revenue Recognition and Deferred Revenue — The Company's revenues are primarily generated from license and research agreements with collaborators. Licensing revenue is recognized on a straight-line basis over the shorter of the life of the license or the estimated economic life of the patents related to the license.

License fee revenue begins to be recognized in the first full month following the effective date of the license agreement. Deferred revenue represents the portion of the license and other payments received that has not been earned. Costs associated with the license revenue are deferred and recognized over the same term as the revenue. Reimbursements of research expense pursuant to grants are recorded in the period during which collection of the reimbursement becomes assured, because the reimbursements are subject to approval.

In some cases, the Company is entitled to receive royalty payments from licensees. In such cases, the Company recognizes the royalties when they are earned and collectability of those royalty payments is reasonably assured.

In connection with its license agreements, the Company recorded $466,487, 506,419 and $725,044 in license fee revenue for the years ended December 31, 2012, 2011 and 2010, respectively, in its consolidated statements of operations, and the remainder of the license fees have been accrued in deferred revenue at December 31, 2012 and 2011, respectively.

Research and Development Costs — Research and development costs consist of expenditures for the research and development of patents and technology, which cannot be capitalized. The Company's research and development costs consist mainly of payroll and payroll related expenses, research supplies and research grants. Reimbursements of

research expense pursuant to grants are recorded in the period during which collection of the reimbursement becomes assured, because the reimbursements are subject to approval. Research and development costs are expensed as incurred.

Share-Based Compensation — The Company records stock-based compensation in accordance with ASC 718, "Compensation – Stock Compensation." ASC 718 requires companies to measure compensation cost for stock-based employee compensation at fair value at the grant date and recognize the expense over the employee's requisite service period. The Company recognizes in the statement of operations the grant-date fair value of stock options and other equity-based compensation issued to employees and non-employees. There were 100,672,803 options outstanding as of December 31, 2012.

Income Taxes — Deferred income taxes are provided using the liability method whereby deferred tax assets are recognized for deductible temporary differences and operating loss and tax credit carryforwards, and deferred tax liabilities are recognized for taxable temporary differences. Temporary differences are the differences between the reported amounts of assets and liabilities and their tax bases. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Deferred tax assets and liabilities are adjusted for the effects of the changes in tax laws and rates of the date of enactment.

When tax returns are filed, it is highly certain that some positions taken would be sustained upon examination by the taxing authorities, while others are subject to uncertainty about the merits of the position taken or the amount of the position that would be ultimately sustained. The benefit of a tax position is recognized in the financial statements in the period during which, based on all available evidence, management believes it is more likely than not that the position will be sustained upon examination, including the resolution of appeals or litigation processes, if any. Tax positions taken are not offset or aggregated with other positions. Tax positions that meet the more-likely-than-not recognition threshold are measured as the largest amount of tax benefit that is more than 50 percent likely of being realized upon settlement with the applicable taxing authority. The portion of the benefits associated with tax positions taken that exceeds the amount measured as described above is reflected as a liability for unrecognized tax benefits in the balance sheets along with any associated interest and penalties that would be payable to the taxing authorities upon examination.

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Applicable interest and penalties associated with unrecognized tax benefits are classified as additional income taxes in the statements of operations.

Net Loss Per Share — Earnings per share is calculated in accordance with the ASC 260-10, *"Earnings Per Share."* Basic earnings-per-share is based upon the weighted average number of common shares outstanding. Diluted earnings-per-share is based on the assumption that all dilutive convertible shares and stock options were converted or exercised. Dilution is computed by applying the treasury stock method. Under this method, options and warrants are assumed to be exercised at the beginning of the period (or at the time of issuance, if later), and as if funds obtained thereby were used to purchase common stock at the average market price during the period.

At December 31, 2012, 2011 and 2010, approximately 235,989,033, 119,000,000 and 190,000,000 potentially dilutive shares, respectively, were excluded from the shares used to calculate diluted earnings per share as their inclusion would be anti-dilutive.

Concentrations and Other Risks — Currently, the Company's revenues are concentrated on a small number of customers. The following table shows the Company's concentrations of its revenue for those customers comprising greater than 10% of total license revenue for the years ended December 31, 2012, 2011 and 2010.

	Years Ended December 31,		
	2012	2011	2010
Exeter Life Sciences, Inc.	*	24%	17%
START Licensing, Inc.	*	13%	14%
International Stem Cell Corporation	52%	15%	23%
CHA Biotech and SCRMI	28%	26%	18%
Lifeline	14%	13%	*

*License revenue earned during the period was less than 10% of total license revenue.

Other risks include the uncertainty of the regulatory environment and the effect of future regulations on the Company's business activities. As the Company is a biotechnology research and development company, there is also the attendant risk that someone could commence legal proceedings over the Company's discoveries. Acts of God could also adversely affect the Company's business.

Recent Accounting Pronouncements

In May 2011, the FASB issued ASU 2011-04 which was issued to provide a consistent definition of fair value and ensure that the fair value measurement and disclosure requirements are similar between U.S. GAAP and IFRS. ASU 2011-04 changes certain fair value measurement principles and enhances the disclosure requirements particularly for Level 3 fair value measurements. This guidance is effective for the Company beginning on January 1, 2012. The adoption of this ASU did not have an impact on the Company's consolidated financial statements.

In June 2011, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2011-05, *Presentation of Comprehensive Income*. ASU 2011-05 revises the manner in which entities present comprehensive income in their financial statements. The new guidance removes the presentation options in Accounting Standards Codification (ASC) 220, *Comprehensive Income*, and requires entities to report components of comprehensive income in either (1) a continuous statement of comprehensive income or (2) two separate but consecutive statements. The ASU does not change the items that must be reported in other comprehensive income. In December 2011, the FASB issued ASU 2011-12 which defers the requirement in ASU 2011-05 that companies present reclassification adjustments for each component of accumulated other comprehensive income in both net income and other comprehensive income on the face of the financial statements. ASU 2011-05 is effective for fiscal years and interim reporting periods within those years beginning after December 15, 2011, with early adoption permitted. The adoption of ASU 2011-05, as amended by ASU 2011-12, did not significantly impact the Company's consolidated financial statements as the Company does not have any comprehensive income at December 31, 2012.

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In September 2011, the FASB issued ASU 2011-08 which provides an entity the option to first assess qualitative factors to determine whether it is necessary to perform the current two-step test for goodwill impairment. If an entity believes, as a result of its qualitative assessment, that it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, the quantitative impairment test is required. Otherwise, no further testing is required. The revised standard is effective for the Company for its annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011. The adoption of ASU 2011-08 did not significantly impact the Company's consolidated financial statements.

In July 2012, the FASB issued Accounting Standards Update ("ASU") No. 2012-02, *Intangibles – Goodwill and Other (Topic 350) – Testing Indefinite-Lived Intangible Assets for Impairment*. ASU No. 2012-02 permits an entity to first assess qualitative factors to determine whether it is more likely than not that an indefinite-life intangible asset is impaired as a basis for determining whether it is necessary to perform quantitative impairment in accordance with Subtopic 350-30*, Intangibles – Goodwill and Other – General Intangibles Other than Goodwill*. The more-likely-than-not threshold is defined as having a likelihood of more than 50 percent. ASU No. 2012-02 is effective for annual and interim impairment tests performed for fiscal years beginning after September 15, 2012 and early adoption is permitted. The company adopted ASU No. 2012-02, as permitted, for its annual impairment test for its fiscal year ended December 31, 2012. The adoption did not have a material impact on the company's consolidated financial statements.

3. SETTLEMENT AND CANCELATION OF LICENSE AGREEMENT

On December 18, 2008, the Company entered into a license agreement with Transition Holdings, Inc. for certain of the Company's non-core technology. Under the agreement, the Company received $2,000,000, less wire fees. The Company further received $1,500,000 in 2009. The Company had initially recorded the transactions as deferred revenue and was amortizing the revenue over its 17-year patent useful life. In December 2010, the Company received notice that Transition Holdings, Inc. was disputing the nature of the arrangement, and subsequently entered into a settlement arrangement with Transition Holdings, Inc. As a result of this settlement, the Company reclassified the unamortized license fee in the amount of $3,205,856 from deferred revenue to accrued settlement. On February 15, 2011, the Company issued 7,413,000 shares as payment in full and recorded a loss on settlement of $294,144.

4. INVESTMENT IN JOINT VENTURE

On December 1, 2008, the Company and CHA Bio & Diostech Co., Ltd. formed an international joint venture. The new company, Stem Cell & Regenerative Medicine International, Inc. ("SCRMI"), will develop human blood cells and other clinical therapies based on the Company's hemangioblast program, one of the Company's core technologies. Under the terms of the agreement, the Company purchased upfront a 33% interest in the joint venture, and will receive another 7% interest upon fulfilling certain obligations under the agreement over a period of 3 years. The Company's contribution includes (a) the uninterrupted use of a portion of its leased facility at the Company's expense, (b) the uninterrupted use of certain equipment in the leased facility, and (c) the release of certain of the Company's research and science personnel to be employed by the joint venture. In return, for a 60% interest, CHA has agreed to contribute $150,000 cash and to fund all operational costs in order to conduct the hemangioblast program. Effective May 1, 2010, the Company was no longer obligated to provide laboratory space to SCRMI, and the Company holds a 40% interest in the joint venture and CHA Bio & Diostech, Ltd. owns a 60% interest. The two partners to the joint venture are in negotiations on further funding of the joint venture, but there can be no assurances that an agreement will be reached. Any financial statement impact at this time is unclear should an agreement not be reached.

The Company has agreed to collaborate with the joint venture in securing grants to further research and development of its technology. Additionally, SCRMI has agreed to pay the Company a fee of $500,000 for an exclusive, worldwide license to the Hemangioblast Program. The Company recorded $29,412, $29,412 and $29,412 in license fee revenue for the years ended December 31, 2012, 2011 and 2010, respectively, in its accompanying consolidated statements of operations, and the balance of unamortized license fee of $381,127 and $410,539 is included in deferred revenue in the accompanying consolidated balance sheets at December 31, 2012 and 2011, respectively.

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On July 15, 2011, the Company and CHA Biotech entered into a binding term sheet, with the expectation of entering into a future definitive agreement, in which the joint venture was realigned around both product development rights and research responsibilities. Under the terms of the binding term sheet, SCRMI exclusively licensed the rights to the Hemangioblast Program to the Company for United States and Canada and expanded the jurisdictional scope of the license to CHA Biotech to include Japan (in addition to South Korea, which was already exclusively licensed to CHA Biotech). As part of the agreement, the scientists at SCRMI involved in the Hemangioblast Program were transferred to the Company, and SCRMI discontinued its research activity and became solely a licensing entity. The Company is obligated to meet a minimal research spending requirement of $6.75 million by July 31, 2014 in order to maintain its exclusive license, up to the point of filing an investigational new drug for a therapeutic product. Intellectual property rights created by the Company in the course of our research are subject to a non-exclusive license to CHA Biotech for Japan and South Korea, and to SCRMI to be sub-licensable under certain circumstances for countries other than the United States, Canada, Japan and South Korea. Pursuant to the agreement, the Company paid $820,000 to SCRMI which is recorded to “losses attributable to equity method investments.”

The following table is a summary of key financial data for the joint venture as of and for the years ended December 31, 2012, 2011 and 2010:

	Years Ended December 31,		
	2012	2011	2010
Current assets	$220,347	$194,349	$611,843
Noncurrent assets	$1,281,739	$1,082,778	$855,372
Current liabilities	$297,999	$294,469	$1,203,941
Noncurrent liabilities	$2,167,669	$2,459,785	$1,439,394
Net revenue	$295,961	$417,382	$76,672
Net income (loss)	$513,545	$(574,713)	$(1,852,336)

5. PROPERTY AND EQUIPMENT

Property and equipment consisted of the following at December 31, 2012 and 2011:

	Years Ended December 31,	
	2012	2011

Machinery & equipment	$907,740	$1,488,527
Computer equipment	32,986	449,893
Office furniture	6,684	82,822
Leasehold improvements	169,572	311,592
Capital leases	–	51,235
	1,116,982	2,384,069
Accumulated depreciation	(941,726)	(2,229,298)
Property and equipment, net	$175,256	$154,771

Depreciation expense for the years ended December 31, 2012, 2011 and 2010 amounted to $58,637, 67,161 and $138,050, respectively.

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6. ACCRUED SETTLEMENT

Midsummer Investment, Ltd

On August 9, 2011, the Company entered into a Settlement Agreement and Mutual Release ("Settlement Agreement") with Midsummer Investment, Ltd and Midsummer Small Cap Master, Ltd. (collectively, "Midsummer"). Pursuant to the Settlement Agreement, upon tender by Midsummer to the Company of warrants held by Midsummer to purchase a total of 20,319,730 shares of the Company's common stock (the "Warrants"), and duly executed notices of exercise (deemed to occur upon execution of the Settlement Agreement), the Company, to settle errors involving warrant issuances to Midsummer, agreed to (i) deliver to Midsummer an aggregate of 36,000,000 shares of the Company's common stock (the "Current Shares"), as an exercise of the Warrants in respect of a partial exercise of Warrants, (ii) undertake to issue 30,585,774 additional shares of the Company's common stock (the "Future Shares"), as an exercise of the remainder of the Warrants within ten days of the date that the Company shall have sufficient authorized and unissued shares of Common Stock ("Authorized Share Increase") which are not otherwise reserved for issuance for other purposes to enable the Company to issue all of the Future Shares and (iii) issue 3,058,577 shares of the Company's common stock (the "Additional Future Shares") for every calendar month elapsed between the date of delivery of the Current Shares and the date following delivery of the Future Shares. The Company and Midsummer provided mutual general releases.

The shares were valued at $0.17 which is the share price on the date of the agreement. Per the Settlement Agreement, the Company issued 36,000,000 shares on August 12, 2011 and issued the Future Shares of 30,585,774 and the Additional Future Shares of 15,292,885 on January 31, 2012.

Alpha Capital

On or about September 16, 2011, Alpha Capital Anstalt ("Alpha Capital"), a Liechtenstein corporation with its principal place of business in Vaduz, Liechtenstein ("plaintiff"), filed an action against the Company in the United States District Court for the Southern District of New York, Case No. 11 CIV 6458. Plaintiff alleges that it is or was a holder of various convertible notes and warrants issued by the Company, and that by reason of certain transactions between the Company and JMJ Financial, Inc. during 2010, the exercise and conversion prices in plaintiff's convertible notes and warrants should have been reset. Plaintiff demands a preliminary and permanent injunction directing that the

Company deliver to it at least 39,514,859 shares of its common stock, as well as monetary damages in an amount to be determined at trial.

On October 14, 2011, the United States District Court for the Southern District of New York entered an order granting plaintiff Alpha Capital's motion for a preliminary injunction and preliminary declaratory relief in the lawsuit entitled Alpha Capital Anstalt v. Advanced Cell Technology, Inc., Case No. 11 CIV 6458 (S.D.N.Y. filed Sept. 16, 2011). In its motion, Alpha Capital sought an order directing the Company to deliver to it at least 39,514,859 shares of its common stock in accordance with the terms of its warrants and convertible promissory notes. The court's October 14, 2011 order directed the Company to hold in escrow 39,514,859 shares of its common stock pending the entry of a preliminary injunction, and directed Alpha Capital to submit a proposed form of order to the court by October 27, 2011. On November 1, 2011, we issued the 39,514,859 shares to Alpha Capital.

On November 23, 2011, the Company answered Alpha Capital’s Complaint and asserted affirmative defenses. On December 12, 2011, the Company and Alpha submitted a Civil Case Management Plan and Scheduling Order.

On September 11, 2012, the Company entered into a settlement agreement (the “Settlement Agreement”) with Alpha Capital. Pursuant to the Settlement Agreement, and subject to Court approval, the Company agreed, in exchange for dismissal of the pending lawsuit with prejudice and a mutual release of all claims, to issue to Alpha Capital 34,285,714 shares of the Company’s common stock (the “Settlement Shares”) and pay $500,000 to Alpha Capital (the “Cash Consideration”).

Pursuant to the Settlement Agreement, the Company and Alpha Capital filed a joint application for a hearing to determine the fairness of the transactions contemplated by the Settlement Agreement. On September 13, 2012, the Court approved the Settlement Agreement, the issuance of the Settlement Shares and the Cash Consideration.

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Black Mountain Equities

On November 9, 2011, the United States District Court for the Southern District of New York entered an order granting plaintiff Black Mountain Equities, Inc. ("Black Mountain") motion for a preliminary injunction and preliminary declaratory relief in the lawsuit entitled Black Mountain Equities, Inc., *v. Advanced Cell Technology, Inc.*, Case No. 11 CIV 7305, filed on October 17, 2011. In its motion, Black Mountain sought an order directing the Company to deliver to it at least 18,000,000 shares of its common stock in accordance with the terms of its warrants and convertible promissory notes. The court's November 9, 2011 order directed the Company to hold in escrow 18,000,000 shares of its common stock pending the entry of a preliminary injunction.

On November 15, 2011, the Company issued and held in escrow the 18,000,000 shares. On December 15, 2011, the Company answered BME's initial Complaint and asserted counterclaims, disputing BME's contention that it was owed 18,000,000 shares. On December 29, 2011, BME filed an Amended Complaint. On January 17, 2012, the Company answered the Amended Complaint and asserted revised counterclaims. On April 9, 2012, the Company settled by agreeing to release 18,000,000 shares of common stock held in escrow and issuing an additional 800,000 shares of common stock, which were issued on May 8, 2012. On May 4, 2012, the Court approved the settlement, and the action was dismissed with prejudice.

Cranshire Master Fund

On December 15, 2011, the United States District Court for the Southern District of New York entered an order granting plaintiff Cranshire Capital Master Fund, Ltd.'s ("Cranshire") motion for a preliminary injunction in the lawsuit entitled *Cranshire Capital Master Fund, Ltd. v. Advanced Cell Technology, Inc.*, Case No. 11 CIV 8755 (S.D.N.Y. filed December 1, 2011). Cranshire asserts that as a result of the transactions between the Company and JMJ, the exercise price of its warrants should have been decreased to $.0353 and the total number of warrant shares issuable upon exercise should have been increased from 6,918,197 to 19,598,292. Based upon these figures, Cranshire asserted that its December 2010 warrant exercise should have resulted in an additional 12,680,094 shares. Cranshire asserts claims for damages, in an amount to be determined at trial, for the Company's alleged failure to deliver the shares and to provide proper notice of reduction in exercise price and conversion price. On December 2, 2011, Cranshire moved for preliminary declaratory relief and for a preliminary injunction directing the Company to deliver immediately at

least 12,680,094 shares of its common stock to Cranshire. At the hearing on December 15, 2011, Cranshire changed its argument, contending that the exercise price should have been decreased to $.027 (as opposed to $.0353) and that, consequently, it was entitled to 18,000,000 shares (as opposed to 12,660,094 shares).On December 15, 2011, the court granted a preliminary injunction and directed the Company to deliver to Cranshire 10,730,265 shares of the Company's common stock.

The Company issued the 10,730,265 shares to Cranshire on December 16, 2011. On February 24, 2012, the Company entered into an agreement with Cranshire to settle all outstanding claims against the Company. Pursuant to the agreement, the Company issued to Cranshire (1) an additional 1,949,735 of common stock, (2) plus the quotient of (x) $276,000 divided by (y) 90% of the closing price of common stock on the trading day immediately preceding the entry of the court order. The number of shares of common stock issued based on a $0.11 share price at February 24, 2012 was 4,941,605. On March 8, 2012, the Court approved the exchange agreement entered into on February 24, 2012 and the action was dismissed with prejudice.

Global Settlement

On December 7, 2011, the Company entered into settlement agreements with 40 holders of convertible promissory notes and warrants that were issued between 2005 and 2010. The settlement agreements relate to claims that the holders may have against the Company regarding the assertion that the conversion price of the notes and the exercise price of the warrants should have been adjusted as a result of certain transactions between the Company and JMJ Financial, Inc. during 2010. Pursuant to the settlement agreements, the Company agreed to issue an aggregate of 239,601,630 shares of common stock to the settling holders.

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At the time of settlement, the Company did not have a sufficient number of authorized but unissued shares of common stock to issue all of the shares of common stock that the Company agreed to issue to settling holders pursuant to the settlement agreements. On January 24, 2012, the Company's shareholders approved the increase in authorized shares to 2,750,000,000. The Company issued 238,237,459 shares on January 31, 2012 and 1,364,171 shares on February 7, 2012.

CAMOFI Master LDC

CAMOFI Master LDC and CAMZHN Master LDC (the "CAMOFI Parties") filed their Complaint on October 13, 2011. In their Complaint, the CAMOFI Parties argue that as a result of the transactions between the Company and JMJ, Gemini Master Fund, Ltd. and Midsummer Investment, Ltd. respectively, the exercise prices in their Warrants and debentures should have been reduced. Consequently, the CAMOFI Parties argue that they have been denied the right to receive, in total, at least 130,795,594 shares of the Company's common stock, which has allegedly resulted in losses to the CAMOFI Parties of at least $22,265,951.

On January 11, 2013, The Company entered into a settlement agreement and mutual release (the "Settlement Agreement") with the CAMOFI Parties. The Settlement Agreement relates to the lawsuit between the CAMOFI Parties, as plaintiffs, and the Company, as defendant, in the Supreme Court of New York, New York County (the "Court"), docket number 652816/2011, in which the CAMOFI Parties claim that the conversion price of certain notes and the exercise price of certain warrants held by the Settling Parties should have been adjusted as a result of certain transactions between the Company and JMJ Financial, Inc. during 2010.

Pursuant to the Settlement Agreement, and subject to Court approval, the Company agreed, in exchange for dismissal of the pending lawsuit with prejudice and a mutual release of all claims, to do the following on the business day following approval by the Court of the settlement or on another day agreed upon by the parties to the settlement (the "Closing"):

- issue to the CAMOFI Parties an aggregate number of shares of the Company's common stock calculated by dividing $4,500,000 by the least of (a) $0.056 per share, (b) the closing price of the common stock on the day immediately prior to the execution of the Settlement Agreement or (c) the volume-weighted average price ("VWAP") reported by Bloomberg LP for the 30-day period before such shares of common stock are received (the "Closing Shares"), of

which 78.9% of such Closing Shares will be issued to CAMOFI and 21.1% to CAMHZN;

- issue (a) to CAMOFI an Amortizing Senior Secured Convertible Debenture in the principal amount of $4,732,781 and (b) to CAMHZN an Amortizing Senior Secured Convertible Debenture in the original principal amount of $1,267,219 (together, the "Debentures");

- pay $1,577,594 to CAMOFI and $422,406 to CAMHZN; and

- reimburse the CAMOFI Parties for certain of the CAMOFI Parties' costs incurred in connection with the pending lawsuit.

The Debentures accrue interest at the rate of 8% per annum and mature on June 30, 2015. The Company may pre-pay all or a portion of the amounts due under the Debentures prior to maturity without penalty. Both of the Debentures are convertible at the option of the holder at a price per share of Common Stock equal to 80% of the volume weighted average price ("VWAP") of the ten consecutive trading days prior to the conversion date (the "Conversion Price"). The Company must make quarterly payments under the Debentures on the last day of each calendar quarter commencing on March 31, 2013 in the amount of $600,000. The quarterly payments may, at the option of the Company and subject to the satisfaction of certain conditions, be paid in shares of Common Stock. In such case, the conversion price for such payment will be based on the lesser of (i) the Conversion Price or (ii) 80% of the average of the 10 closing prices immediately prior to the date the quarterly payment is due. To secure its obligations under the Debentures, the Company will grant a security interest in substantially all of the Company's assets, including its intellectual property, to the Settling Parties. The Debentures contain certain covenants customary for debt instruments of its kind.

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On January 22, 2013, the Supreme Court of New York approved the issuance of the shares of the Company's common stock that the Company agreed to issue to the CAMOFI Parties pursuant to the Settlement Agreement and Mutual Release that was entered into on January 11, 2013. Accordingly, on January 23, 2013, the Company issued an aggregate of 80,357,143 shares to the CAMOFI Parties as required by the Settlement Agreement and in reliance upon the exemption from registration under Section 3(a)(10) of the Securities Act of 1933, as amended.

Pursuant to the settlement agreement, the Company and CAMOFI entered into a registration rights agreement, which required the Company to register the shares of Common Stock into which the Debentures are convertible with the Securities and Exchange Commission. The registration rights agreement provides that the registration statement will be filed within thirty days of the execution of the registration rights agreement and that it becomes effective within sixty days or within 90 days in the event of a full review by the Securities and Exchange Commission. If the Company fails to file the registration statement within the required time period, then the Company will pay, in cash, partial liquidated damages equal to 1.5% of the original principal amount of the Debentures. If the Company fails to pay any partial liquidated damages with seven days after the date payable, the Company will pay interest thereon at a rate of 18% per annum. The Company filed the registration statement on February 21, 2013 which was within the required time period. As of December 31, 2012, the Company has not recorded a liability related to the registration rights agreement.

At December 31, 2012 and 2011, accrued settlements related to the above agreements were $6,807,891 and $34,155,552, respectively.

7. LOSS CONTINGENCY ACCRUAL

The Company was not able to reach settlement agreements with all of holders of convertible promissory notes and warrants that were issued between 2005 and 2010. The Company will continue to negotiate with the holders and anticipates that the number of shares to be issued will be similar to the settlements that have already been finalized as of December 31, 2012.

Included in the loss contingency accrual is $3,500,000 related to a civil action brought against the Company by the SEC. See Note 15 "Commitments and Contingencies."

The loss contingency accrual was $6,176,787 and $16,704,169 at December 31, 2012 and 2011, respectively.

8. CONVERTIBLE PROMISSORY NOTES

2010 JMJ Convertible Promissory Notes

During 2010, the Company issued three convertible promissory notes to JMJ Financial, for a total of $3,000,000 available to receive in cash, for a principal sum of $3,850,000, which included an original issue discount of $850,000. The notes bear a one-time interest charge of 10% on the principal sum. The holder may at its election convert all or part of these notes into shares of the Company's common stock at the conversion rate of the lesser of: (a) $0.10 per share, or (b) 85% of the average of the three lowest trade prices in the 20 trading days prior to the conversion. During 2010, the Company received the entire $3,000,000 on these notes. Of the $3,850,000 borrowed, the Company converted $3,562,215 into 76,465,706 shares of common stock during 2010. The notes mature on March 30, 2013.

As of December 31, 2012 and 2011, the convertible promissory notes were convertible at the option of the holders into a total of 6,129,824 and 4,303,863 shares, respectively, subject to anti-dilution and other customary adjustments. The fair value of the embedded conversion option was $122,668 and $227,547 as of December 31, 2012 and 2011, respectively. The decrease in the fair value of this liability was $104,878 and $401,372 during the years ended December 31, 2012 and 2011, respectively, which was recorded through the statements of operations as an adjustment to fair value of derivatives. The assumptions used in the Black-Scholes option pricing model at December 31, 2012 are as follows: (1) dividend yield of 0%; (2) expected volatility of 155%, (3) risk-free interest rate of 0.01%, and (4) expected life of 0.24 years.

Interest expense from amortization of debt discounts related to the JMJ Convertible Promissory Notes for the years ended December 31, 2012, 2011 and 2010 was $127,207, 126,863 and $6,410,552, respectively.

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CAMOFI Master LDC Amortizing Secured Convertible Debenture

On January 11, 2013, the Company entered into a Settlement Agreement Mutual Release with the CAMOFI Parties. Pursuant to the Settlement Agreement, the Company issued Debentures in the principal amount of $4,732,781 and 1,267,219 to CAMOFI and CAMHZN, respectively. The Debentures have an effective date of December 31, 2012, accrue interest at the rate of 8% per annum and mature on June 30, 2015. The Company may pre-pay all or a portion of the amounts due under the Debentures prior to maturity without penalty. Both of the Debentures are convertible at the option of the holder at a price per share of common stock equal to 80% of the VWAP of the ten consecutive trading days prior to the conversion date. The Company must make quarterly payments under the Debentures on the last day of each calendar quarter commencing on March 31, 2013 in the amount of $600,000. The quarterly payments may, at the option of the Company and subject to the satisfaction of certain conditions, be paid in shares of Common Stock. In such case, the conversion price for such payment will be based on the lesser of (i) the conversion price as defined in the agreement or (ii) 80% of the average of the 10 closing prices immediately prior to the date the quarterly payment is due. To secure its obligations under the Debentures, the Company granted a security interest in substantially all of the Company’s assets, including its intellectual property, to the CAMOFI Parties. The Debentures contain certain covenants customary for debt instruments of its kind.

The Company determined that the Debentures contained an embedded beneficial conversion feature as the Debentures are convertible at a price per share of common stock equal to 80% of the VWAP of the ten consecutive trading days prior to the conversion date. The Debentures and the embedded beneficial conversion feature were modeled using a lattice model. The Debenture was valued at a risk-adjusted rate resulting in a value of $5,275,000 and the fair value of the embedded beneficial conversion feature was $845,000. The Company recorded a debt discount of $725,000 which will be amortized as interest expense over the life of the Debentures and recorded $845,000 as an embedded conversion option liability.

9. Series A-1 REDEEMABLE Convertible Preferred Stock

On March 3, 2009, the Company entered into a $5 million credit facility (“Facility”) with a life sciences fund. Under the terms of the agreement, the Company may draw down funds, as needed, from the investor through the issuance of Series A-1 redeemable convertible preferred stock, par value $.001, at a basis of 1 share of Series A-1 redeemable convertible preferred stock for every $10,000 invested. The preferred stock pays dividends, in kind of preferred stock, at an annual rate of 10%, matures in four years from the initial drawdown date, and is convertible into common stock

at $0.75 per share at the option of the holder.

However, in the event the closing price of the common stock during the 5 trading days following the notice to convert falls below 75% of the average of the closing bid price in the 5 trading days prior to the closing date, the investor may, at its option, and without penalty, decline to purchase the applicable put shares on the closing date.

The Company is required to keep available out of its authorized but unissued shares of common stock, such number of shares sufficient to effect a conversion of all then outstanding shares of the Series A-1 redeemable convertible preferred stock.

The Series A-1 redeemable preferred stock has been classified within the mezzanine section between liabilities and equity in the consolidated balance sheets because it is considered conditionally redeemable. The embedded conversion option has been recorded as a derivative liability in the Company’s consolidated balance sheets, and changes in the fair value each reporting period are reported in adjustments to fair value of derivatives in the consolidated statements of operations.

The outstanding balance at December 31, 2012 and 2011 was $1,130,165, and is convertible into 1,506,887 shares of the Company’s common stock. The Company values the conversion option initially when each draw takes place (see section entitled “Conversion Option” in this footnote below). As of December 31, 2012, the Company has drawn $3,418,166 of the $5,000,000 commitment.

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The following table summarizes the Series A-1 redeemable convertible preferred stock outstanding at December 31, 2012 and 2011:

	December 31, 2012	December 31, 2011
Principal due	$1,130,165	$1,130,165
Accrued dividend	477,332	342,097
Debt discount	(8,964)	(43,136)
	1,598,533	1,429,126
Non-current portion	$1,598,533	$1,429,126
Aggregate liquidation value*	$1,607,497	$1,472,262

* Represents the sum of principal due and accrued dividends.

The dividends are accrued at a rate of 10% per annum, and the Company records the accrual as interest expense in its consolidated statements of operations in the period incurred. The Company recorded accrued dividends on the Series A-1 redeemable convertible preferred stock of $135,235, 122,605 and $95,883 for the years ended December 31, 2012, 2011, and 2010, respectively, which is recorded as interest expense in the consolidated statements of operations.

Redemption Rights

Upon the earlier of (i) the fourth anniversary of the issuance date, and (ii) the occurrence of a major transaction, each holder shall have the right, to require the Company to redeem all or a portion of such holder’s share of Series A-1 preferred stock, at a price per share equal to the Series A-1 liquidation value. The Company has the option to pay the redemption price in cash or in shares of its common stock. The Company shall have the right to redeem all or a portion of the shares of Series A-1 redeemable preferred stock, at any time at a price per share of Series A-1 redeemable preferred stock equal to 100% of the Series A-1 liquidation value.

Termination and Liquidation Rights

The Company may terminate this agreement and its right to initiate future draw-downs by providing 30 days advanced written notice to the investor, subject to certain limitations.

Upon any liquidation, dissolution or winding up of the Company, the holders of the Series A-1 redeemable convertible preferred stock shall first be entitled to be paid out of the assets of the Company available for distribution (subject to certain limitations) to its stockholders an amount with respect to each share of Series A-1 redeemable convertible preferred stock equal to $10,000, plus any accrued by unpaid dividends.

Conversion Option:

The embedded conversion option was valued at $33 and $25,983 at December 31, 2012 and 2011, respectively, at fair value using the Black-Scholes model. The decrease in the fair value of the embedded conversion option liability of $25,950, 186,464 and $392,400 for the years ended December 31, 2012, 2011 and 2010, respectively, was recorded through the statements of operations as an adjustment to fair value of derivatives.

The assumptions used in the Black-Scholes model to value the embedded conversion option at December 31, 2012 were as follows: (1) dividend yield of 0%; (2) expected volatility of 155%, (3) risk-free interest rate of 0.01%, and (4) expected life of 0.26 years.

Commitment fee and expenses

For providing investor relations services in connection with the Series A-1 redeemable convertible preferred stock credit facility, the Company issued a consultant 24,900,000 shares of its common stock on February 9, 2009. The Company valued the issuance of these shares at $4,731,000 based on a closing price of $0.19 on February 9, 2009 and recorded the value of the shares as deferred financing costs on the date they were issued. Beginning on the date of the first draw-down on April 6, 2009 (the loan maturity date is 4 years after the initial draw-down), the Company amortizes these fees over the term of the Series A-1 redeemable convertible preferred stock facility which represents the implied term of the investor relations contract.

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The Company also incurred a non-refundable commitment fee to the holder of this convertible preferred stock facility in the amount of $250,000. The initial fee went into delinquency and was modified on October 19, 2009. (See modification section in the footnote below.)

Beginning on the date of the first draw-down on April 6, 2009 (the loan maturity date is 4 years after the initial draw-down), the Company amortizes the deferred issuance costs ratably over the term of the Series A-1 redeemable convertible preferred stock facility.

Interest expense from amortization of the debt discount and deferred costs for the years ended December 31, 2012, 2011 and 2010 was $446,741, 445,521 and $137,753, respectively.

Modification of Series A-1 Convertible Redeemable Preferred Stock:

On October 19, 2009, the Company entered into two letter agreements with Volation, pursuant to which (i) the Company reduced the conversion price of its existing outstanding Series A-1 convertible preferred stock issued to Volation to $.10 per share resulting in 22,880,000 shares of Common Stock upon conversion, (ii) the Company issued Volation 2,500,000 shares of its Common Stock at $0.10 per share in payment of an outstanding commitment fee, and (iii) Volation waived the delinquency in non-payment of the $250,000 commitment fee required pursuant to the preferred stock purchase agreement between the Company and Volation. The commitment fee was paid during the year ended December 31, 2010 by reducing the proceeds paid by the Series A-1 Preferred Stock investors by the amount of the commitment fee.

10. SERIES B PREFERRED STOCK

On November 2, 2009 (“Effective Date”), the Company entered into a preferred stock purchase agreement with Optimus Life Sciences Capital Partners, LLC (“Investor” or “Optimus”). Pursuant to the purchase agreement, the Company agreed to sell, and the Investor agreed to purchase, in one or more purchases from time to time at the Company’s sole discretion, (i) up to 1,000 shares of Series B preferred stock at a purchase price of $10,000 per share, for an aggregate

purchase price of up to $10,000,000, and (ii) five-year warrants to purchase shares of the Company's common stock with an aggregate exercise price equal to 135% of the purchase price paid by the Investor, at an exercise price per share as follows:

· On the sixth (6th) Trading Day following the Tranche Notice Date, the Exercise Price of the Optimus Warrant shall be adjusted to equal the VWAP for the 5 trading days beginning on and including the Tranche Notice Date (as so adjusted, the "Adjusted Exercise Price"); and

· If the Adjusted Exercise Price results in additional Warrant Shares being issuable to the Holder, such additional shares shall be delivered to the Holder within one Trading Day following the Adjustment Date. If the Adjusted Exercise Price results in less Warrant Shares being issuable to the Holder, the excess Warrant Shares shall be returned by the Holder to the Company within one Trading Day following on the Adjustment Date.

The Company agreed to pay to the Investor a commitment fee of $500,000, at the earlier of the closing of the first Tranche or the six month anniversary of the effective date, payable at the Company's election in cash or common stock valued at 90% of the volume weighted average price of the Company's common stock on the five trading days preceding the payment date. The $500,000 commitment fee was outstanding and was recorded in accrued expenses in the Company's consolidated balance sheet at December 31, 2009. During 2010, the Company issued 50 shares of preferred stock as payment for the commitment fee.

During 2010, the Company delivered tranche notices to Optimus Life Sciences Capital Partners, LLC for delivery of a total of 1,000 shares under the Series B preferred stock for funding in the amount of $10,000,000 ($9,485,000 in cash proceeds, $500,000 of commitment fee applied, and $15,000 in legal fees).

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During 2010, in connection with the funding, the Company issued 95,870,362 shares of its common stock upon exercise of the same number of warrants, which were granted simultaneously with the Company's tranche notices. During 2010, the Company received secured promissory notes in the amount of $13,500,000 to settle the warrant exercise.

Dividends

Commencing on the date of the issuance of any shares of Series B preferred stock, Holders of Series B preferred stock will be entitled to receive dividends on each outstanding share of Series B preferred stock, which will accrue in shares of Series B preferred stock at a rate equal to 10% per annum from the issuance date compounded annually. Accrued dividends will be payable upon redemption of the Series B preferred stock. Accrued dividends were $2,352,321 and $1,229,538 at December 31, 2012 and 2011, respectively.

Redemption Rights

Upon or after the fourth anniversary of the initial issuance date, the Company will have the right, at the Company's option, to redeem all or a portion of the shares of the Series B preferred stock, at a price per share equal to 100% of the Series B liquidation value. The preferred stock may be redeemed at the Company's option, commencing 4 years from the issuance date at a price per share of (a) $10,000 per share plus accrued but unpaid dividends (the "Series B Liquidation Value"), or, at a price per share of : (x) 127% of the Series B Liquidation Value if redeemed on or after the first anniversary but prior to the second anniversary of the initial issuance date, (y) 118% of the Series B Liquidation Value if redeemed on or after the second anniversary but prior to the third anniversary of the initial issuance date, and (z) 109% of the Series B Liquidation Value if redeemed on or after the third anniversary but prior to the fourth anniversary of the initial issuance date.

Liquidation Rights

The preferred shares shall, with respect to dividend, rights upon liquidation, winding-up or dissolution, rank: (i) senior to the Company's common stock, and any other class or series of preferred stock of the Company, except Series A-1 Convertible Preferred Stock which shall rank senior in right of liquidation and *pari passu* with respect to dividends; and (ii) junior to all existing and future indebtedness of the Company.

If the Company determines to liquidate, dissolve or wind-up its business, it must redeem the Series B preferred stock at the prices set forth above. Upon any liquidation, dissolution or winding up of the Company the Holders of Series B preferred stock shall be first entitled to be paid out of the assets of the Company available for distribution to its stockholders an amount with respect to each share of Series B preferred stock equal to $10,000, plus any accrued and unpaid dividends.

The Company has classified the Series B redeemable preferred stock in the equity section in its consolidated balance sheets.

Related Secured Promissory Notes Receivable:

In accordance with the terms of the Series B preferred stock agreement, Optimus issued to the Company a secured promissory note in consideration for receiving warrants under each tranche. The value of each secured promissory note equals the value of the warrants that Optimus received. Interest on the notes accrues at 2% per year, compounding annually if the interest remains unpaid at the end of each year. The note is secured by freely tradable marketable securities belonging to Optimus. Each promissory note matures on the fourth anniversary of its issuance.

In the event the Company redeems all or a portion of any shares of Series B preferred stock held by Optimus, the Company will be permitted to offset the full amount of such proceeds against amounts outstanding under the promissory notes. Accordingly, the Company included the discounted value of the secured promissory notes as a separate component of stockholders' deficit at December 31, 2012 and 2011.

The value of the secured promissory notes in the consolidated balance sheet was $12,328,558, net of discounts of $1,641,001 and accrued interest of $469,559 at December 31, 2012, reflecting a face value of $13,500,000. The value of the secured promissory notes in the consolidated balance sheet was $11,207,935, net of discounts of $2,537,499 and accrued interest of $245,434 at December 31, 2011, reflecting a face value of $13,500,000. The Company determined that a 10% discount is appropriate, in order to consistently reflect the Company's cost of borrowing under the terms of the underlying Series B preferred stock that permits offset. The Company recorded an initial discount on the promissory notes in the amount of $3,519,238 during the year ended December 31, 2010. The Company accretes interest at 10% over the respective four-year terms of the promissory notes.

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During the years ended December 31, 2012, 2011 and 2010 the Company accreted interest on the promissory notes in the amount of $1,120,623, 1,227,173 and $196,607, respectively, which was recorded in accumulated deficit during the periods then ended. The Company recorded dividends on its Series B preferred stock during the years ended December 31, 2012, 2011 and 2010 of $1,122,783, 1,229,538 and $196,986, respectively. The accrued dividends are offset by the accretion of the note receivable discount.

As of December 31, 2012 and 2011, 1,000 shares of Series B preferred stock were outstanding. As of December 31, 2012, the Company has drawn the entire commitment of $10,000,000.

11. SERIES C PREFERRED STOCK

On December 30, 2010 (the “Series C Effective Date”), the Company entered into a securities purchase agreement (the “Series C Purchase Agreement”) with Socius CG II, Ltd., a Bermuda exempted company (“Socius”). Pursuant to the Series C Purchase Agreement:

The Company agreed to sell, and Socius agreed to purchase, in one or more purchases from time to time (each such purchase, a “Series C Tranche”) in the Company’s sole discretion (subject to the conditions set forth therein), (i) up to 2,500 shares of Series C Preferred Stock (the “Series C Preferred Shares”) at a purchase price of $10,000 per share, for an aggregate purchase price of up to $25,000,000, and (ii) a two-year warrant (the “Socius Warrant”) obligating Socius to purchase shares of the Company’s common stock (the “Common Stock”) with an aggregate exercise price equal to 20% of the purchase price paid by Socius for the Series C Preferred Shares sold in each Series C Tranche, at an exercise price per share equal to the closing bid price of the Company’s Common Stock on the date the Company provides notice of such Series C Tranche (the “Series C Tranche Notice”). On each date that the Company delivers a Series C Tranche Notice to Socius, Socius shall also become obligated, pursuant to a right automatically vesting on such Series C Tranche Notice date, to purchase that number of shares of Common Stock (such shares of Common Stock the “Additional Investment Shares”) equal in dollar amount to 100% of the Series C Tranche amount set forth in the Series C Tranche Notice at a price per share equal to the closing bid price of the Common Stock on the Series C Tranche Notice date.

The Series C Purchase Agreement requires that, when the Company requests Socius to purchase a tranche of Series C Preferred Shares, the mandatory purchase by Socius of the related Additional Investment Shares must occur no later

than sixty (60) calendar days following the Series C Tranche Notice date.

The Socius Warrant was issued to Socius on December 30, 2010 (the “Closing Date”) simultaneous with entering into the Series C Purchase Agreement. The Socius Warrant was issued with an initial exercise price per warrant is of $0.16 per share and for a total of up to 31,250,000 shares, subject to adjustment as described therein. On January 10, 2011, Socius and the Company entered into a letter agreement in which the parties agreed that, following arms-length negotiations and notwithstanding anything to the contrary in the Socius Warrant, that the initial number of shares issuable under the Socius Warrant, subject to the adjustment mechanism set forth therein, was equal to 30,000,000.

As required by the Purchase Agreement, the Socius Warrant must be exercised for such number of shares of Common Stock equal in amount to 20% of the cumulative purchase price paid by Socius for the Series C Preferred Shares. The maximum amount of Series C Preferred Stock that Socius may become obligated to purchase under all Series C Tranches is $25,000,000. Assuming the maximum drawdown of $25,000,000 by the Company under the Series C Purchase Agreement, Socius would be required to exercise the Socius Warrant to purchase 20% of this total dollar amount, or $5,000,000 worth of shares of Common Stock.

The Letter Agreement modified the Socius Warrant only with respect to the initial number of underlying shares and expressly provides that, except as so modified, the Socius Warrant shall remain unchanged and shall continue in full force and effect.

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At the initial closing pursuant to the Series C Purchase Agreement, which occurred on the Closing Date, (i) Socius purchased 400 Preferred Shares and the Company received gross proceeds of $4,000,000 (ii) the Company delivered to Socius an initial warrant (the "Initial Warrant") obligating Socius to purchase shares of Common Stock with an aggregate purchase price of $800,000, which shall be automatically exercisable on the date a registration statement for the resale of all shares of Common Stock issuable pursuant to the Series C Purchase Agreement is declared effective (which effectiveness occurred on April 13, 2011), with delivery of such shares made to Socius on the trading day immediately following the exercise date at a per-share price equal to the closing bid price of the Common Stock on the delivery date, and (iii) Socius became obligated to purchase additional shares of Common Stock equal in aggregate dollar amount to $4,000,000 (such shares of Common Stock the "Initial Investment Shares"), with delivery of such shares made to Socius on the trading day immediately following the date the registration statement is declared effective at a price per share equal to the closing bid price of Common Stock on the delivery date.

The Company agreed to pay to Socius a commitment fee of $1,250,000 (the "Commitment Fee"), at the earlier of the closing of the first Series C Tranche or the six month anniversary of the Series C Effective Date. This Commitment Fee is payable solely at the Company's election, in cash or in the alternative, in shares of common stock valued at 88% of the volume weighted average price of the Company's Common Stock on the five trading days preceding the payment date. If the Company elects to pay the Commitment Fee in shares of Common Stock, no cash payment would be due as the issuance of shares would satisfy the Commitment Fee obligation in full. The Company issued 7,562,008 shares of common stock on September 30, 2011 as full payment of the commitment fee.

The Company agreed to use its best efforts to file within 60 days of the Series C Effective Date, and cause to become effective as soon as possible thereafter, a registration statement with the Securities and Exchange Commission for the resale of all shares of Common Stock issuable pursuant to the Series C Purchase Agreement, including the shares of Common Stock underlying the Socius Warrant, shares of the Common Stock issuable upon exercise of the Initial Warrant, shares of Common Stock issuable as Initial Investment Shares, shares of Common Stock issuable as Additional Investment Shares, and shares of Common Stock issuable in payment of the Commitment Fee.

In the event that Socius does not comply with its obligations under the Series C Purchase Agreement (including its obligations to exercise the Socius Warrant), the Series C Purchase Agreement provides that, in addition to being entitled to exercise all rights provided therein or granted by law, the Company would be entitled to seek specific performance by Socius under the Series C Purchase Agreement and the Socius Warrant.

On December 30, 2010, in accordance with the purchase agreement, the Company filed a certificate of designations for the Series C preferred stock with the Secretary of State of the state of Delaware. As previously reported, pursuant to the Certificate of Designations, the preferred shares shall, with respect to dividend, rights upon liquidation, winding-up or dissolution, rank: (i) senior to the Company's common stock, and any other class or series of preferred stock of the Company (collectively, with any warrants, rights, calls or options exercisable for or convertible into such

preferred stock, the “Junior Securities”); provided, however, the Series A-1 convertible preferred stock and Series B preferred stock (together, the “Senior Securities”) shall rank senior in right of redemption, liquidation, and dividends; and (ii) junior to all existing and future indebtedness of the Company.

On June 16, 2011, the Company delivered the second Series C Tranche notice to Socius for delivery of a total of 400 shares under the Series C preferred stock for funding in the amount of $4,000,000.

On September 22, 2011, the Company delivered the third Series C Tranche notice to Socius for delivery of a total of 150 shares under the Series C preferred stock for funding in the amount of $1,500,000.

On December 15, 2011, the Company delivered the fourth Series C Tranche notice to Socius for delivery of a total of 200 shares under the Series C preferred stock for funding in the amount of $2,000,000.

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On March 21, 2012, the Company delivered the fifth Series C Tranche notice to Socius for delivery of a total of 250 shares under the Series C preferred stock for funding in the amount of $2,500,000.

On June 20, 2012, the Company delivered the sixth Series C Tranche notice to Socius for delivery of a total of 200 shares under the Series C preferred stock for funding in the amount of $2,000,000.

On September 21, 2012, the Company delivered the sixth Series C Tranche notice to Socius for delivery of a total of 150 shares under the Series C preferred stock for funding in the amount of $1,500,000.

As of December 31, 2012, the Company has drawn $17,500,000 of the $25,000,000 commitment.

Dividends

Commencing on the date of the issuance of any shares of Series C preferred stock, holders of Series C preferred stock will be entitled to receive dividends on each outstanding share of Series C preferred stock, which will accrue in shares of Series C preferred stock at a rate equal to 6% per annum from the issuance date compounded annually. Accrued dividends will be payable upon redemption of the Series C preferred stock. Accrued dividends were $1,325,333, and $400,110 at December 31, 2012 and 2011, respectively.

Redemption Rights

Upon or after the fourth anniversary of the initial issuance date, the Company will have the right, at the Company's option, to redeem all or a portion of the shares of the Series C preferred stock, at a price per share equal to 100% of the Series C liquidation value. The preferred stock may be redeemed at the Company's option, commencing 4 years from the issuance date at a price per share of (a) $10,000 per share plus accrued but unpaid dividends (the "Series C Liquidation Value"), or, at a price per share of : (i) 136% of the Series C Liquidation Value if redeemed prior to the first anniversary of the initial issuance date, (ii) 127% of the Series C Liquidation Value if redeemed on or after the first anniversary but prior to the second anniversary of the initial issuance date, (iii) 118% of the Series C Liquidation

Value if redeemed on or after the second anniversary but prior to the third anniversary of the initial issuance date, and (iv) 109% of the Series C Liquidation Value if redeemed on or after the third anniversary but prior to the fourth anniversary of the initial issuance date.

Termination and Liquidation Rights

If the Company determines to liquidate, dissolve or wind-up its business, it must redeem the Series C preferred stock at the prices set forth above. Upon any liquidation, dissolution or winding up of the Company, the Holders of Series C preferred stock shall be first entitled to be paid out of the assets of the Company available for distribution to its stockholders an amount with respect to each share of Series C preferred stock equal to $10,000, plus any accrued and unpaid dividends.

Related Secured Promissory Notes Receivable:

In accordance with the terms of the Series C preferred stock agreement, the Company issued the following notes receivable:

- On April 14, 2011 and associated with the first Series C Tranche notice which occurred on December 31, 2010, Socius issued to the Company a secured promissory note of $4,000,000 for 22,222,222 shares of common stock and issued a secured promissory note of $800,000 for the exercise of warrants for 4,444,444 shares of common stock.
- On June 16, 2011 and associated with the second Series C Tranche notice, Socius issued to the Company a secured promissory note of $4,000,000 for 21,390,374 shares of common stock and issued a secured promissory note of $800,000 for the exercise of warrants for 4,278,075 shares of common stock.
- On September 22, 2011 and associated with the third Series C Tranche notice, Socius issued to the Company a secured promissory note of $1,500,000 for 9,671,180 shares of common stock and issued a secured promissory note of $300,000 for the exercise of warrants for 1,934,236 shares of common stock.
- On December 15, 2011 and associated with the fourth Series C Tranche notice, Socius issued to the Company a secured promissory note of $2,000,000 for 20,512,821 shares of common stock and issued a secured promissory note of $400,000 for the exercise of warrants for 4,102,564 shares of common stock.
- On March 21, 2012 and associated with the fifth Series C Tranche notice, Socius issued to the Company a secured promissory note of $2,500,000 for 26,315,789 shares of common stock and issued a secured promissory note of $500,000 for the exercise of warrants for 5,263,158 shares of common stock.

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- On June 20, 2012 and associated with the sixth Series C Tranche notice, Socius issued to the Company a secured promissory note of $2,000,000 for 28,490,028 shares of common stock and issued a secured promissory note of $400,000 for the exercise of warrants for 5,698,006 shares of common stock.
- On September 21, 2012 and associated with the seventh Series C Tranche notice, Socius issued to the Company a secured promissory note of $1,500,000 for 19,011,407 shares of common stock and issued a secured promissory note of $300,000 for the exercise of warrants for 3,802,281 shares of common stock.

Interest on the notes accrues at 2% per year, compounding annually if the interest remains unpaid at the end of each year. The note is secured by freely tradable marketable securities belonging to Socius. Each promissory note matures on the fourth anniversary of its issuance.

In the event the Company redeems all or a portion of any shares of Series C preferred stock held by Socius, the Company will be permitted to offset the full amount of such proceeds against amounts outstanding under the promissory notes. Accordingly, the Company included the discounted value of the secured promissory notes as a separate component of stockholders' deficit at December 31, 2012 and 2011.

The value of the secured promissory notes in the consolidated balance sheet was $19,294,139, net of discounts of $2,135,527 and accrued interest of $429,666 at December 31, 2012, reflecting a face value of $21,000,000. The value of the secured promissory notes as of December 31, 2011 was $12,173,251, net of discounts of $1,740,516 and accrued interest of $113,767, reflecting a face value of $13,800,000. The Company determined that a 6% discount is appropriate, in order to consistently reflect the Company's cost of borrowing under the terms of the underlying Series C preferred stock that permits offset. The Company recorded an initial discount on the promissory notes in the amount of $1,968,050 during the year ended December 31, 2011 and an additional $1,026,809 of debt discounts during the years ended December 31, 2012 related to the fifth, sixth and seventh tranche notice. The Company accretes interest at 6% over the respective four-year terms of the promissory notes.

During the years ended December 31, 2012 and 2011, the Company accreted interest on the promissory note in the amount of $947,696 and $341,301, respectively, which was recorded in accumulated deficit during the periods then ended. The Company recorded dividends on its Series C preferred stock during the years ended December 31, 2012 and 2011 of $925,222 and $400,110, respectively. The accrued dividends are offset by the accretion of the note receivable discount.

The Company has classified the Series C redeemable preferred stock in the equity section in its consolidated balance sheets. As of December 31, 2012 and 2011, 1,750 and 1,150 shares of Series C preferred stock were outstanding,

respectively.

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12. WARRANT SUMMARY

Warrant Activity

A summary of warrant activity for the years ended December 31, 2012 and 2011 is presented below:

	Number of Warrants	Weighted Average Exercise Price $	Weighted Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value (000) $
Outstanding, December 31, 2010	134,931,242	0.12	3.54	
Granted	20,575,780	0.20		
Exercised	(132,870,434)	0.08		
Forfeited/Canceled	(879,167)	1.61		
Outstanding, December 31, 2011	21,757,421	0.18	2.88	
Granted	14,763,445	0.081		
Exercised	(14,763,445)	0.081		
Forfeited/Canceled	–	–		
Outstanding, December 31, 2012	21,757,421	0.18	1.88	–
Exercisable, December 31, 2012	21,757,421	0.18	1.88	–

The aggregate intrinsic value in the table above is before applicable income taxes and is calculated based on the difference between the exercise price of the warrants and the quoted price of the Company’s common stock as of the reporting date.

The following table summarizes information about warrants outstanding and exercisable at December 31, 2012:

Warrants Outstanding and Exercisable

Exercise Price $	Number of Shares	Weighted Average Remaining Life (Years)	Weighted Average Exercise Price $
.10 - .11	15,916,785	1.58	0.10
.20 - .30	1,630,000	3.00	0.25
.38-.39	1,330,636	4.57	0.39
.40-.45	2,065,000	1.06	0.42
0.70	815,000	3.00	0.70
	21,757,421		

During the year ended December 31, 2012, the Company issued to Socius 14,763,445 warrants which were exercised immediately through Socius issuing the Company a note receivable as discussed in Note 11.

13. STOCKHOLDERS' EQUITY TRANSACTIONS

On April 26, 2012, at the Annual Meeting of the Company's Shareholders, the Company's shareholders approved an amendment to the Certificate of Incorporation of the Company to effect a reverse stock split of the Company's common stock, par value $0.001 per share, at a ratio not less than one-for-twenty and not greater than one-for-eighty, and reduce the number of authorized shares of the Company's common stock in the same proportion as the reverse split, with the exact ratio to be set within such range in the discretion of the Board of Directors without further approval or authorization of the Company's shareholders, provided that the Board of Directors determines to effect the reverse stock split and proportional reduction in authorized shares of common stock and such amendment is filed with the Secretary of State of Delaware no later than December 31, 2012. The Company did not effect the reverse split allowing the approved amendment to expire.

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Effective July 1, 2011, the Company entered into an amended and restated employment agreement with Gary Rabin. Per the agreement, the Company agreed to issue 10,000,000 shares of restricted stock which vests in equal installments on the last day of each calendar quarter commencing on July 31, 2011 and ending on December 31, 2013. During the years ended December 31, 2012, the Company issued 4,000,000 shares of common stock pursuant to the agreement for a total of 6,000,000 shares which have been issued to date. The Company valued the 10,000,000 shares at $0.185 per share for a value of $1,850,000 which will be amortized over 30 months. During the years ended December 31, 2012, 2011, and 2010 the Company recorded $740,000, 370,000 and $0 as payroll expense in the consolidated statements of operations.

On August 8, 2011, the Company entered into a new employment agreement with Robert Lanza. Per the agreement, the Company agreed to issue 15,000,000 shares of restricted stock with 6,000,000 shares vesting immediately and the remaining 9,000,000 shares vesting over a 21 months period beginning on January 31, 2012. During the years ended December 31, 2012, the Company issued 5,142,857 shares of common stock pursuant to the agreement. As of December 31, 2012, 11,142,857 shares have been issued. The Company valued the 15,000,000 shares at $0.1571 per share for a value of $2,356,500 which will be amortized through September 30, 2013. During the years ended December 31, 2012, 2011 and 2010 the Company recorded $652,568, 1,214,504 and $0 as payroll expense in the accompanying consolidated statements of operations.

On January 31, 2012, February 7, 2012 and May 8, 2012, the Company issued 238,237,459, 1,364,171 and 800,000 shares, respectively, to various debt and warrant holders as part of the global settlement as discussed in Note 6. The shares were valued at $26,428,179. The Company reduced the accrued settlement by $26,356,179 and the loss contingency accrual by $72,000 with the issuance of the shares.

On January 31, 2012, the Company issued 45,878,659 shares to Midsummer Investment, Ltd. per the settlement agreement as discussed in Note 6. The shares were valued at $7,799,373. The Company reduced the accrued settlement by $7,799,373 with the issuance of the shares.

On February 17, 2012, the Company issued 5,183,374 shares to RHP Master Fund, Ltd. as a result of a preliminary injunction from the court as discussed in Note 6. The shares were valued at $570,171. The Company reduced the loss contingency accrual by $570,171 for the issuance of the shares.

On March 12, 2012 the Company issued 4,941,605 shares in settlement of litigation with Cranshire Capital Master Fund, Ltd. The shares were recorded as finance costs and valued at $543,577.

On March 21, 2012, the Company issued 31,578,947 shares of common shares in exchange for promissory notes of $2,500,000 and $500,000 as discussed in Note 11.

On March 30, 2012, the Company issued various board members 792,832 shares of common stock valued at $73,500 as compensation for board services.

On April 10, 2012, the Company issued 1,285,714 shares of common shares as executive compensation which was valued at $143,000.

On April 19, 2012, the Company issued 100,000 shares of common shares as board compensation which was valued at $8,000.

On June 20, 2012, the Company issued 34,188,034 shares of common shares in exchange for promissory notes of $2,000,000 and $400,000 as discussed in Note 11.

On June 29, 2012, the Company issued various board members 1,009,720 shares of common stock valued at $64,500 as compensation for board services.

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On September 11, 2012, the Company issued 34,285,714 shares in settlement of litigation with Alpha Capital. The shares were valued at $0.09 at the settlement date.

On September 21, 2012, the Company issued 22,813,688 shares of common shares in exchange for promissory notes of $1,500,000 and $300,000 as discussed in Note 11.

On September 19, 2012, the Company entered into a purchase agreement (the “Purchase Agreement”) with Lincoln Park Capital Fund, LLC, (“Lincoln Park”). Pursuant to the Purchase Agreement, the Company has the right to sell to Lincoln Park up to $35,000,000 in shares of its common stock. Upon signing the Purchase Agreement, LPC purchased 10,000,000 shares of the Company’s common stock for $800,000 as the initial purchase. In addition, the Company issued 8,750,000 shares to Lincoln Park as a commitment fee.

Upon the satisfaction of the conditions set forth in the Purchase Agreement, including the Registration Statement being declared effective by the SEC, the Company has the right over a 36-month period to sell up to an additional $34.2 million worth of shares of our Common Stock to Lincoln Park, upon the terms set forth in the Purchase Agreement. Pursuant to the Purchase Agreement, the purchase price of such common stock will be based on the prevailing market price of the Company’s common stock immediately preceding the time of sales, with the Company controlling the timing and amount of any future sales, if any, of common stock to Lincoln Park. There are no upper limits to the price Lincoln Park may pay to purchase our common stock. Lincoln Park shall not have the right or the obligation to purchase any shares of common stock on any business day that the closing price of the Company’s common stock is below a floor price as provided in the Purchase Agreement. The purchase price means, with respect to any regular purchase, the lower of: (i) the lowest Sale Price on the applicable purchase date and (ii) the arithmetic average of the three (3) lowest closing sale prices for the common stock during the ten (10) consecutive business days ending on the business day immediately preceding such purchase date (in each case, to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction that occurs on or after the date of this Purchase Agreement. However, the purchase price cannot be below $0.03.

From November 14, 2012 to December 27, 2012 Lincoln Park purchased 37,052,000 shares of common stock valued at $2,141,102

On September 28, 2012, the company issued various board members 952,117 shares of common stock valued at $75,500 as compensation for board services.

On October 4, 2012, the company issued a board member 1,000,0000 shares of common stock valued at $143,000 as compensation for board services.

On December 31, 2012, the company issued various board members 1,080,348 shares of common stock valued at $61,812 as compensation for board services.

14. STOCK-BASED COMPENSATION

Stock Plans

Stock Plan	Options/Shares Issued	Options Outstanding	Options/Shares Available For Grant
2004 Stock Plan	2,492,000	70,000	308,000
2004 Stock Plan II	1,301,161	1,071,161	–
2005 Stock Plan	104,042,168	99,531,642	234,147,328
	107,835,329	100,672,803	234,455,328

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Stock Option Activity

A summary of option activity for the years ended December 31, 2012, 2011, and 2010 is presented below:

	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value
Outstanding, December 31, 2009	28,486,119	0.32	8.09	33
Granted	19,890,000	0.11		
Exercised	–	–		
Forfeited/canceled	–	–		
Outstanding, December 31, 2010	48,376,119	$ 0.23	7.56	$ 3,825
Granted	46,207,499	0.22		
Exercised	(2,250,000)	0.09		
Forfeited/canceled	(533,333)	0.10		
Outstanding, December 31, 2011	91,800,285	$ 0.23	8.19	
Granted	9,872,518	0.10		
Exercised	–	–		
Forfeited/canceled	(1,000,000)	0.12	–	
Outstanding, December 31, 2012	100,672,803	$ 0.22	7.45	$ 399
Vested and expected to vest at December 31, 2012	98,042,339	$ 0.22	7.42	$ 399
Exercisable, December 31, 2012	80,438,467	$ 0.23	7.22	$ 399

The aggregate intrinsic value in the table above is before applicable income taxes and is calculated based on the difference between the exercise price of the options and the quoted price of the Company’s common stock as of the reporting date.

The following table summarizes information about stock options outstanding and exercisable at December 31, 2012.

Options Outstanding			Options Exercisable		
	Weighted	Weighted		Weighted	Weighted

Exercise Price	Number of Shares	Average Exercise Price	Average Remaining Life (Years)	Number of Shares	Average Exercise Price	Average Remaining Life (Years)
$0.05	70,000	$ 0.05	1.61	70,000	$ 0.05	1.61
0.08 - 0.09	14,252,022	0.09	7.42	10,907,870	0.09	7.52
0.10 - 0.157	42,261,769	0.12	8.01	35,021,260	0.12	7.88
0.185 - 0.21	26,735,835	0.19	7.65	21,086,160	0.20	7.41
0.25 - 0.45	11,071,161	0.36	7.87	7,071,161	0.36	7.52
0.85	5,604,099	0.85	2.08	5,604,099	0.85	2.08
$1.35 - 2.48	677,917	$ 2.04	2.85	677,917	$ 2.04	2.85
	100,672,803			80,438,467		

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The assumptions used in calculating the fair value of options granted using the Black-Scholes option- pricing model for options granted during the three years ended December 31, 2012 are as follows:

	December 31, 2012	December 31, 2011	December 31, 2010
Risk-free interest rate	0.89 - 1.04%	0.02 - 3.47%	2.3 - 2.8%
Expected life of the options	5 - 6.26	0.2 - 9 years	5 - 7 years
Expected volatility	160%	160 - 180%	175 - 180%
Expected dividend yield	0%	0%	0%
Expected forfeitures	13%	13%	13%

The weighted average grant-date fair value for the options granted during the years ended December 31, 2012, 2011 and 2010, was $0.11, $0.22 and $0.10, respectively.

Stock-based compensation expense to employees and non employees for the years ended December 31, 2012, 2011 and 2010, was $3,694,982, $3,856,502 and $967,721, respectively. The compensation expense related to the unvested options as of December 31, 2012, was $2,626,471, which will be recognized over the weighted average period of 2.06 years.

Restricted Common Stock Activity

Pursuant to employment agreements with Gary Rabin and Robert Lanza as described in Note 13, the Company issued shares of restricted stock. A summary of the restricted stock activity for the years ended December 31, 2012, 2011, and 2010 is presented below:

	Number of Stock (#)	Weighted Average Grant Date Fair Value ($)
Outstanding, December 31, 2009	–	
Granted	5,000,000	0.140
Vested	–	
Forfeited/canceled	–	
Unvested, December 31, 2010	5,000,000	0.140

Granted	25,000,000	0.168
Vested	(13,000,000)	0.164
Forfeited/canceled	–	
Unvested, December 31, 2011	17,000,000	0.170
Granted	–	
Vested	(9,142,857)	0.169
Forfeited/canceled	–	
Unvested, December 31, 2012	7,857,143	0.171

The Company recorded compensation expense of $1,392,569, $641,904, and $0 for the years ended December 31, 2012, 2011 and 2010, respectively. The compensation expense related to the unvested restricted shares as of December 31, 2012, was $1,229,427, which will be recognized during the year ended December 31, 2013.

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15. COMMITMENTS AND CONTINGENCIES

Estate of William Caldwell

The Company has received a copy of a Creditor's Claim (the "Claim") in the amount of $27,909,706 made with the Estate of William Caldwell ("Decedent"), who at the time of his death was the Chief Executive Officer and Chairman of the Board of Directors of the Company. The Claim states that Decedent's liability arises under a cause of action that the Claimant intends to file in Federal court against the Company for violations of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), including Section 10(b) of the Exchange Act and the rules promulgated thereunder. As of the date of the filing of this report, the Company is not aware of any action commenced against it by the Claimant.

In the Claim, the Claimant alleges that in September 2005, he entered into a Settlement Agreement with the Company pursuant to which he received a warrant to purchase shares of the Company's Common Stock. In the Claim, the Claimant makes several allegations against the Company including that in reliance on misinformation provided to him by the Decedent he exercised his warrant to purchase the Company's Common Stock at an inflated price and received fewer shares than he was owed by the Company under the terms of his warrant, that the Company breached the Claimant's warrant by not timely issuing stock after the warrant was exercised, and that the Company failed to provide proper notice of certain events that allegedly triggered the Claimant's purported rights to additional shares under the warrant. Claimant previously brought an action against the Company, in October 2007, with respect to a dispute over the interpretation of the anti-dilution provisions of the warrant but withdrew this action the day before the trial date.

Pursuant to the employment agreement between the Company and the Decedent, the Company has to indemnify and hold Decedent harmless from costs, expenses or liability arising out of or relating to any acts or decisions made by Decedent in the course of his employment to the same extent that the Company indemnifies and holds harmless other officers and directors of the company in accordance with the Company's established policies. Our directors and officers are indemnified by our bylaws against amounts actually and necessarily incurred by them in connection with the defense of any action, suit or proceeding in which they are a party by reason of being or having been directors or officers of the Company. Our certificate of incorporation provides that none of our directors or officers shall be personally liable for damages for breach of any fiduciary duty as a director or officer involving any act or omission of any such director or officer. Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, may be permitted to such directors, officers and controlling persons pursuant to the foregoing provisions, or

otherwise, the Company has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

In the event that a claim for indemnification against such liabilities, other than the payment by the Company of expenses incurred or paid by such director, officer or controlling person in the successful defense of any action, suit or proceeding, is asserted by such director, officer or controlling person in connection with the securities being registered, the Company will, unless in the opinion of counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The Company determined that an accrual was necessary at December 31, 2012, which is included in the “loss contingency accrual” amount on the consolidated balance sheets. See Note 7.

Securities and Exchange Commission – Civil Action

In May 2012, the Company was named as a defendant in a civil action brought by the Securities and Exchange Commission related to transactions involving the sale and issuance of the Company’s securities. The Securities and Exchange Commission alleges that Company violated Section 5(a) and 5(c) of the Securities Act of 1933 because certain sales of shares to outside organizations, completed in late 2008 and early 2009 under the Company’s former management, resulted in $3.5 million in proceeds to the Company, were neither registered under the Securities act nor subject to an exemption from registration under Section 3(a)(10) of the Securities Act of 1933, as amended. In addition, the Company is alleged to have violated Section 13(a) of the Exchange Act of 1934 because the Company did not disclose the sale and issuance of the shares to the Securities and Exchange Commission on a timely basis. The Company expensed the $3.5 million as “fines and penalties” in the consolidated statement of operations and recorded the $3.5 million liability to “loss contingency accrual” in the consolidated balance sheet.

See Note 7 “Loss Contingency Accrual”

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Employment Contracts

The Company has entered into employment contracts with certain executives and research personnel. The contracts provide for salaries, bonuses and stock option grants, along with other employee benefits.

Agreements

On May 4, 2012, The Company entered into an exclusive license agreement with StemLifeLine, Inc. for certain human stem cell lines that were created without destroying the donor embryo. The Company has agreed to pay $65,000 to StemLifeLine in upfront fees under the license. The Company has agreed to pay the first $200,000 in revenue that the Company receives under the agreement with Roslin Cells or any other stem cell bank entity for sale or licensing of the stem cell lines, and 20% of any such revenue, thereafter.

Leases

On January 29, 2010, the Company signed a new lease to move from its Worcester facility to a new 10,607 square-foot facility in Marlborough, Massachusetts. The lease term is from April 1, 2010 through June 30, 2015. Monthly base rent was $13,038, $12,817 and $12,596 for 2012, 2011 and 2010, respectively. The Company amended the lease effective March 1, 2011 adding an additional 1,650 square feet with an increase in monthly rent of $1,513.

During 2011, the Company renewed its site in Los Angeles, California through February 28, 2013 with a monthly base rent of $2,170. In November 2012, the Company entered into a new lease agreement that becomes effective March 1, 2013 and terminates on February 28, 2018. The monthly rent for this space is $6,272 per month for months 1 through 12, $6,460 per month for months 13 through 24, $6,654 per month for months 25 through 36, $6,854 per month for months 37 through 48, and $7,059 per month for months 49 through 60.

Annual minimum lease payments are as follows:

2013	$242,768
2014	255,504
2015	184,406
2016	81,848
2017	84,298
Thereafter	14,118
	$862,942

Rent expense recorded in the financial statements for the years ended December 31, 2012, 2011 and 2010 was approximately $187,000, $201,000 and $281,000, respectively.

ADVANCED CELL TECHNOLOGY, INC. AND SUBSIDIARY

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16. INCOME TAXES

The items accounting for the difference between income taxes computed at the federal statutory rate and the provision for income taxes were as follows:

	2012	2011	2010
Statutory federal income tax rate	(34)%	(34)%	(34)%
State income taxes, net of federal taxes	(6)%	(6)%	(6)%
Non-includable items	11 %	29 %	18 %
Increase in valuation allowance	29 %	12 %	22 %
Effective income tax rate	–	–	–

Significant components of deferred tax assets and (liabilities) are as follows:

	2012	2011
Deferred tax assets:		
Net operating loss carryforwards	$49,011,399	$43,707,906
Depreciation	151,194	141,001
Capitalized R&D expenses	1,936,824	566,788
Deferred revenue	(77,592)	1,392,669
Losses from joint venture	348,102	350,857
Professional fees	88,658	1,253,223
Stock-based compensation	–	2,078,675
Reversal of unpaid liabilities	1,238,538	1,184,298
Valuation allowance	(52,697,123)	(50,675,417)
Net deferred tax asset	$–	$–

The Company files income tax returns in the U.S. federal jurisdiction, and various state jurisdictions. With few exceptions, the Company is no longer subject to U.S. federal, state and local income tax examinations by tax authorities for years before 2009.

At December 31, 2012, the Company had federal and state net operating loss carry forwards available to offset future taxable income of approximately $117 million and $82 million respectively. These carry forwards will begin to expire in the years ending December 31, 2020 and December 31, 2013, respectively. These net operating losses are subject to various limitations on utilization based on ownership changes in the prior years under Internal Revenue Code Section 382. The Company is in the process of analyzing the impact of the ownership changes but management does not believe they will have a material impact on the Company’s ability to utilize the net operating losses in the future.

The Company periodically evaluates the likelihood of the realization of deferred tax assets, and adjusts the carrying amount of the deferred tax assets by the valuation allowance to the extent the future realization of the deferred tax assets is not judged to be more likely than not. The Company considers many factors when assessing the likelihood of future realization of its deferred tax assets, including its recent cumulative earnings experience by taxing jurisdiction, expectations of future taxable income or loss, the carryforward periods available to the Company for tax reporting purposes, and other relevant factors.

At December 31, 2012, based on the weight of available evidence, including cumulative losses in recent years and expectations of future taxable income, the Company determined that it was more likely than not that its deferred tax assets would not be realized and have a $52.8 million valuation allowance associated with its deferred tax assets.

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The components of income tax expense are as follows:

	2012	2011	2010
Current federal income tax	$–	$–	$–
Current state income tax	–	–	$–
Deferred taxes	2,021,705	7,878,246	$4,309,420
Valuation allowance	(2,021,705)	(7,878,246)	$(4,309,420)
	$–	$–	$–

Future changes in the unrecognized tax benefit will have no impact on the effective tax rate due to the existence of the valuation allowance. The Company estimates that the unrecognized tax benefit will not change significantly within the next twelve months. The Company will continue to classify income tax penalties and interest as part of general and administrative expense in its consolidated statements of operations. There were no interest or penalties accrued as of December 31, 2012, 2011 or 2010.

The following table summarizes the open tax years for each major jurisdiction:

Jurisdiction	Open Tax Years
Federal	2009 - 2011
States	2009 - 2011

17. RELATED PARTY TRANSACTIONS

On January 31, 2012, the Shapiro Family Trust received 5,532,198 shares of the Company’s common stock valued at $608,542 upon cashless exercise of the warrants in connection with the 2005-2008 convertible debentures and in accordance with the December 7, 2011 global settlement agreement. Dr. Shapiro, one of the Company’s directors, may be deemed the beneficial owner of the securities owned by the Shapiro Family Trust.

On January 31, 2012, PDPI, LLC received 11,204,101 of the Company’s common stock valued at $1,232,451 upon cashless exercise of warrants in accordance with the December 7, 2011 global settlement agreement. Mr. Rabin, the

Company's Chief Executive Officer and Chairman of the Board of Directors, has a 33.33% equity interest in the entity.

18. SUBSEQUENT EVENTS

The Company evaluates and discloses subsequent events as required by ASC Topic No. 855, Subsequent Events. The Topic establishes general standards of accounting for and disclosure of events that occur after the balance sheet date but before the financial statements are issued or are available to be issued. Subsequent events have been evaluated as of the date of this filing.

CAMOFI Master LDC Settlement

On January 11, 2013, The Company entered into a Settlement Agreement and Mutual Release with the CAMOFI Parties. The Settlement Agreement relates to the lawsuit between the CAMOFI Parties, as plaintiffs, and the Company, as defendant, in the Supreme Court of New York, New York County, docket number 652816/2011, in which the CAMOFI Parties claim that the conversion price of certain notes and the exercise price of certain warrants held by the Settling Parties should have been adjusted as a result of certain transactions between the Company and JMJ Financial, Inc. during 2010.

Pursuant to the Settlement Agreement, and subject to Court approval, the Company agreed, in exchange for dismissal of the pending lawsuit with prejudice and a mutual release of all claims, to do the following on the business day following approval by the Court of the settlement or on another day agreed upon by the parties to the settlement:

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- issue to the CAMOFI Parties an aggregate number of shares of the Company's common stock calculated by dividing $4,500,000 by the least of (a) $0.056 per share, (b) the closing price of the common stock on the day immediately prior to the execution of the Settlement Agreement or (c) the VWAP reported by Bloomberg LP for the 30-day period before such shares of common stock are received, of which 78.9% of such Closing Shares will be issued to CAMOFI and 21.1% to CAMHZN;

- issue (a) to CAMOFI a Debenture in the principal amount of $4,732,781 and (b) to CAMHZN a Debenture in the original principal amount of $1,267,219;

- pay $1,577,594 to CAMOFI and $422,406 to CAMHZN; and

- reimburse the CAMOFI Parties for certain of the CAMOFI Parties' costs incurred in connection with the pending lawsuit.

The Debentures accrue interest at the rate of 8% per annum and mature on June 30, 2015. The Company may pre-pay all or a portion of the amounts due under the Debentures prior to maturity without penalty. Both of the Debentures are convertible at the option of the holder at a price per share of Common Stock equal to 80% of the VWAP of the ten consecutive trading days prior to the conversion date. The Company must make quarterly payments under the Debentures on the last day of each calendar quarter commencing on March 31, 2013 in the amount of $600,000. The quarterly payments may, at the option of the Company and subject to the satisfaction of certain conditions, be paid in shares of Common Stock. In such case, the conversion price for such payment will be based on the lesser of (i) the Conversion Price or (ii) 80% of the average of the 10 closing prices immediately prior to the date the quarterly payment is due. To secure its obligations under the Debentures, the Company will grant a security interest in substantially all of the Company's assets, including its intellectual property, to the Settling Parties. The Debentures contain certain covenants customary for debt instruments of its kind.

On January 22, 2013, the Supreme Court of New York approved the issuance of the shares of the Company's common stock that the Company agreed to issue to the CAMOFI Parties pursuant to the Settlement Agreement and Mutual Release that was entered into on January 11, 2013. Accordingly, on January 23, 2013, The Company issued an aggregate of 80,357,143 shares to the CAMOFI Parties as required by the Settlement Agreement and in reliance upon the exemption from registration under Section 3(a)(10) of the Securities Act of 1933, as amended.

Leases

On January 11, 2013, the Company entered into an office lease agreement to rent approximately 17,696 square feet of office and laboratory space located 33 Locke Drive, Marlborough, Massachusetts. The lease term commenced on January 11, 2013 and continues until March 31, 2018. The rent for the premises is $0 per month for the first three months, $21,383 per month for months 4 through 27, $22,120 per month for months 28 through 39, $22,489 per month for months 40 through 51 and $22,857 per month for months 52 through 63. The Company paid a refundable security deposit in the amount of $21,382 that will be refunded following the end of the lease term minus any deductions that are permitted pursuant to the lease and applicable law. The Company has an option to extend the lease term for an additional five year period on the same terms as the lease agreement except that the rental rate will be adjusted to the then prevailing rate for the office building.

Issuance of Shares

From January 15, 2013 through March 4, 2013, the Company issued 52,876,000 shares to Lincoln Park for cash proceeds of $3,962,572.

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19. SELECTED QUARTERLY DATA (UNAUDITED)

	Quarterly Periods Ended			
	March 31, 2012	June 30, 2012	September 30, 2012	December 31, 2012
Revenue	$55,685	218,184	68,184	124,434
Gross profit (loss)	$40,076	202,575	52,575	53,825
Loss from operations	$(5,419,471)	(4,477,994)	(5,005,543)	(6,235,007)
Other income (expense)	$(293,019)	518,551	(3,502,708)	(4,111,070)
Net income (loss)	$(5,712,490)	(3,959,443)	(8,508,251)	(10,346,077)
Basic and diluted earnings (loss) per share	$(0.00)	(0.00)	(0.00)	(0.01)

	Quarterly Periods Ended			
	March 31, 2011	June 30, 2011	September 30, 2011	December 31, 2011
Revenue	$153,688	153,688	132,805	$66,238
Gross profit (loss)	$130,788	(127,812)	116,155	$43,338
Loss from operations	$(4,835,655)	(3,611,811)	(6,895,786)	$(5,767,106)
Other income (expense)	$1,493,618	(1,208,338)	(45,625,243)	$(6,344,798)
Net income (loss)	$(3,342,037)	(4,820,149)	(52,521,029)	$(12,111,904)
Basic and diluted earnings (loss) per share	$(0.00)	$(0.00)	$(0.03)	$(0.02)

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

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures.

Our Chief Executive Officer (Principal Executive Officer and Principal Financial Officer) has evaluated our disclosure controls and procedures as of December 31, 2012 and has concluded that our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms and is accumulated and communicated to our management, including the Chief Executive Officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f). Our management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation under the framework in Internal Control – Integrated Framework, our management concluded that our internal control over financial reporting was effective as of December 31, 2012.

Our internal control over financial reporting as of December 31, 2012 has been audited by SingerLewak LLP, an independent registered public accounting firm, as stated in their report which is included herein.

Changes in Internal Controls Over Financial Reporting.

There were no changes in our internal control over financial reporting that occurred during the fourth quarter of 2012 that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders

Advanced Cell Technology, Inc. and Subsidiary

We have audited Advanced Cell Technology, Inc. and subsidiary's internal control over financial reporting as of December 31, 2012, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. Advanced Cell Technology, Inc. and subsidiary's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit.

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

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

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

In our opinion, Advanced Cell Technology, Inc. and subsidiary maintained, in all material respects, effective internal control over financial reporting as of December 31, 2012, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Advanced Cell Technology, Inc. and subsidiary as of December 31, 2012 and 2011 and the related consolidated statements of operations, stockholders' deficit and cash flows for each of the three years in the period ended December 31, 2012, and our report dated March 7, 2013 expressed an unqualified

opinion.

/s/ SingerLewak LLP

Los Angeles, California

March 7, 2013

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Our Directors and Executive Officers

Our directors are elected at the annual meeting of stockholders to hold office until the annual meeting of stockholders for the ensuing year or until their successors have been duly elected and qualified. Officers are elected annually by the Board of Directors and serve at the discretion of the Board. Following is information about our executive officers and directors. There are no family relationships among our executive officers or directors.

Name	Age	Position
Gary Rabin	47	Chief Executive Officer and Chairman of the Board of Directors
Robert P. Lanza M.D.	57	Chief Scientific Officer
Alan C. Shapiro, Ph.D.	67	Member of the Board of Directors
Robert Langer, Sc.D.	65	Member of the Board of Directors
Zohar Loshitzer	55	Member of the Board of Directors
Gregory D. Perry	52	Member of the Board of Directors
Michael Heffernan	48	Member of the Board of Directors

Gary Rabin has served as a director since December 2007 and as our Chief Executive Officer and Chairman of the Board since December 2010. Prior to joining us as CEO, Mr. Rabin had a twenty three year career in finance that primarily encompassed investment management and capital raising targeting small-cap and emerging growth companies. Until November 2010, he was the Managing Partner of GR Advisors LLC, a long/short hedge fund focused on the media and communications industry. From 2003 until July 2007, he was a Portfolio Manager at MAC Investment Management, LLC (“MAC”), a long/short hedge fund where he focused on communications, healthcare services, energy and special situations. Prior to that, he was Managing Director and Co-Head of the Media and Telecom Investment Banking Group at CIBC World Markets (“CIBC”), where he was responsible for all corporate finance and M&A, financial restructurings, and principal investing activities (both debt and equity) within the sector. Before joining CIBC, Mr. Rabin served in an operating capacity at a broadband services company when he was Chief Strategy Officer of CAIS Internet, Inc. (“CAIS”). At CAIS, he was responsible for raising over $500 million of financing commitments in both the public equity markets and from his relationships at Kohlberg, Kravis Roberts & Co., Qwest Communications, Cisco, Nortel, 3Com and Microsoft. Mr. Rabin has also started and served as Managing Director and Head of the Global Telecom Investment Banking Group at ING Barings Furman Selz, and was a founder of the telecom group at UBS Securities. He began his career in finance in 1987, and concentrated on energy, utilities, and metals until 1993. Throughout his career, Mr. Rabin has been responsible for building and developing businesses. Mr. Rabin earned an AB in Economics from the University of Michigan. Mr. Rabin’s long career as a senior manager in both the investment banking community and as a senior financial executive qualifies

him to be a member of the Board of Directors of Advanced Cell Technology, Inc.

Robert P. Lanza, M.D. has been our Chief Scientific Officer since October 2007. Dr. Lanza has over 20 years of research and industrial experience in the areas of tissue engineering and transplantation medicine. Prior to his promotion to Chief Scientific Officer, Dr. Lanza served as the Company's VP of Research & Scientific Development. Before joining us in 1999, from 1990 to 1998, Dr. Lanza was Director of Transplantation Biology at BioHybrid Technologies, Inc., where he oversaw that company's xenotransplantation and bioartificial pancreas programs. He has edited or authored sixteen books, including Principles of Tissue Engineering (4th ed. co-edited with R. Langer and J. Vacante), Yearbook of Cell and Tissue Transplantation, One World The Health & Survival of the Human Species in the Twenty-First Century, and Xeno: The Promise of Transplanting Animal Organs into Humans (co-authored with D.K.C. Cooper). Dr. Lanza received his B.A. and M.D. Degrees from the University of Pennsylvania, where he was both a University Scholar and Benjamin Franklin Scholar.

Alan C. Shapiro, Ph.D. has served as director since 2005. He adds more than 30 years' experience in corporate and international financial management to the Company. Dr. Shapiro is currently the Ivadelle and Theodore Johnson Professor of Banking and Finance at the Marshall School of Business, University of Southern California, where he previously served as the Chairman of the Department of Finance and Business Economics, Marshall School of Business. Prior to joining the University of Southern California, Dr. Shapiro taught as an Assistant Professor at the University of Pennsylvania, Wharton School of Business, and has been a visiting professor at Yale University, UCLA, the Stockholm School of Economics, University of British Columbia, and the U.S. Naval Academy. Dr. Shapiro has published over 50 articles in such academic and professional journals as the Journal of Finance, Harvard Business Review, and the Journal of Business, among many others. He frequently serves as an expert witness in cases involving valuation, economic damages, international finance, takeovers, and transfer financing through Trident Consulting Group LLC. He received his B.A. in Mathematics from Rice University, and a Ph.D. in Economics from Carnegie Mellon University. Dr. Shapiro is a trustee of Pacific Corporate Group's Private Equity Fund. Dr. Shapiro's board experience on multiple public company boards, his recognized expertise as a highly sought after financial advisor and his career as a professor and Chair in the field of Finance and Administration qualifies him as a valued member of our board of directors.

Robert S. Langer, Sc.D. has served as a director since October 2011. Since 2005, he has been an Institute Professor (there are 14 Institute Professors at MIT; being an Institute Professor is the highest honor that can be awarded to a faculty member). Dr. Langer has written approximately 1,120 articles and has nearly 800 issued or pending patents. His many awards include the National Medal of Science, Charles Stark Draper Prize (considered the engineering Nobel Prize), Albany Medical Center Prize (largest US medical prize) and the Lemelson-MIT prize, for being "one of history's most prolific inventors in medicine." Langer is one of the very few individuals ever elected to the Institute of Medicine, the National Academy of Engineering, and the National Academy of Sciences. Dr. Langer also serves on the board of directors of Fibrocell Science, Inc. Dr. Langer's medical and scientific knowledge and experience qualify him to serve as a director of the Company.

Zohar Loshitzer has served as a director since November 2011. He is currently the CEO of Presbia, Inc. As a principal in Los Angeles-based private equity firm Orchard Capital, he has held leadership positions in several of its portfolio companies, including Presbia. Previously, Mr. Loshitzer served as the president, CEO and founder of Universal Telecom Services (UTS), which provides high-quality, competitively priced voice and data telecommunications solutions to emerging markets. Mr. Loshitzer oversaw the company's operations and its critical relationships with key foreign entities, mainly in the Indochina region. He is one of the founders of J2 Global Communications (NASDAQ: JCOM), and a co-founder and former managing director of Life Alert Emergency Response, Inc. He currently serves as a managing director of Orchard Telecom, Inc., and currently serve as a board member of Environmental Solutions Worldwide Inc. (ESW). (ESW) is a publicly traded company (OTCBB: ESWW) and manufactures and markets a diverse line of proprietary catalytic emission conversion, control and support products and technologies for the International Transportation, Construction and Utility markets. He has previously served as a board member to MAI Systems Corporation, an AMEX-listed company. Earlier in his career, Mr. Loshitzer worked in the aerospace industry at the R&D lab of Precision Instruments, a division of IAI (Israel Aircraft Industries).Mr. Loshitzer focuses on helping grow companies from startups to global enterprises. Under his leadership, company infrastructures have been dramatically scaled and offerings broadened while maintaining a strong culture of innovation. Mr. Loshitzer holds a degree in Electrical & Electronic Engineering from Ort Syngalowski College in Israel. Mr. Loshitzer's finance and business management knowledge and experience qualifies him to serve as a director of the Company.

Gregory D. Perry has served as a director since December 2011. He is currently the Executive VP and CFO at ImmunoGen which he joined in January 2009 as Senior Vice President and Chief Financial Officer and was promoted to his current position in March 2011. Before joining ImmunoGen, Mr. Perry was CFO of Elixir Pharmaceuticals, Inc., where he was extensively involved in partnering and fundraising activities. Prior to Elixir, he was CFO of Domantis, Ltd., an antibody-related therapeutics company acquired by GlaxoSmithKline in 2006. Previously, Mr. Perry was Senior Vice President of Finance and CFO at Transkaryotic Therapies, Inc. (TKT) until its acquisition by Shire plc. in 2005. Before joining TKT in 2003, Mr. Perry held positions of increasing responsibility during his five years at PerkinElmer, Inc., rising to Senior Vice President, Finance and Business Development, Life Sciences. Prior to PerkinElmer, Mr. Perry spent the early part of his career at General Electric, joining the company's financial management program in 1982 and departing in 1996 as Vice President and CFO, GE Medical Systems – Europe, after numerous promotions. Mr. Perry's pharmaceutical industry knowledge and experience qualifies him to serve as a director of the Company.

Michael Heffernan has served as a director since April 2012. He has 26 years of experience in the pharmaceutical and related healthcare industries. He is currently Co-Founder, President, CEO of Collegium Pharmaceutical. Collegium is specialty pharmaceutical company focused on the development of pharmaceutical products for the treatment of chronic pain. He was also previously the founder, President and CEO of Onset Therapeutics, a dermatology focused company that develops and commercializes products for the treatment of skin related illnesses and was responsible for the spin-off of this business to create PreCision Dermatology. Michael held prior positions as Co-Founder, President and CEO of Clinical Studies Ltd., a pharmaceutical contract research organization that he successfully sold. He also

served as President and CEO of PhyMatrix, a public $400 million integrated healthcare services company where he was hired to restructure the company. Michael started his career at Eli Lilly and Company and served in numerous sales and marketing roles. He has also been a member of the Board of Directors, Advisor and Angel Investor in a number of healthcare companies. He is currently a member of the Board of Directors of TyRx, a venture backed medical device company, Cornerstone Therapeutics (NASDAQ:CRTX), a specialty pharmaceutical company and PreCision Dermatology. Michael earned his B.S. Degree in Pharmacy from the University of Connecticut and is a Registered Pharmacist. Mr. Heffernan’s pharmaceutical industry and business management knowledge and experience qualify him to serve as a director of the Company.

Board of Directors Meetings and Attendance

The Board of Directors has responsibility for establishing broad corporate policies and reviewing our overall performance rather than day-to-day operations. The primary responsibility of our Board of Directors is to oversee the management of our company and, in doing so, serve the best interests of the company and our stockholders. The Board of Directors selects, evaluates and provides for the succession of executive officers and, subject to stockholder election, directors. It reviews and approves corporate objectives and strategies, and evaluates significant policies and proposed major commitments of corporate resources. Our Board of Directors also participates in decisions that have a potential major economic impact on our company. Management keeps the directors informed of company activity through regular communication, including written reports and presentations at Board of Directors and committee meetings.

We have no formal policy regarding director attendance at the annual meeting of stockholders. The Board of Directors held seven meetings in 2012. All board members were present at the meetings.

Board Committees

Our Board of Directors has established an Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee. The members of each committee are appointed by our Board of Directors, upon recommendation of the Nominating Committee, and serve one-year terms. Each of these committees operates under a charter that has been approved by the Board of Directors. The charter for each committee is available on our website. The Audit Committee met four times during 2012. The Compensation Committee met seven times during 2012. The Nominating Committee did not meet during 2012.

Audit Committee

The Audit Committee’s responsibilities include:

- Monitoring the integrity of the Company’s financial reporting process and systems of internal controls regarding finance, accounting and legal compliance.
- Monitoring the independence and performance of the Company’s internal and independent auditors.
- Monitoring compliance by the Company with legal and regulatory requirements.
- Facilitating open communication among the Company’s independent auditors, internal auditors, employees, management, and the Board.

Dr. Shapiro, Mr. Perry and Mr. Loshitzer serve on our Audit Committee. Dr. Shapiro serves as chair of the Audit Committee. The Board of Directors has determined that Dr. Shapiro qualifies as an “audit committee financial expert” as defined in Item 407(d)(5) of Regulation S-K and is independent according to the requirements of Rule 5605(a)(2) of the Nasdaq Marketplace Rules and Rule 10A-3 under the Securities Exchange Act of 1934, as amended.

Compensation Committee

The Compensation Committee's responsibilities include:

- Reviewing and approving or recommending approval to the board of directors, of the compensation of our executive officers,
- Overseeing the evaluation of our senior executives,
- Reviewing and making recommendations to the Board of Directors regarding incentive compensation and equity-based plans,
- Administering our stock incentive plans, and
- Reviewing and making recommendations to the Board of Directors regarding director compensation.

The members of the Compensation Committee are Dr. Shapiro, Mr. Perry, Mr. Loshitzer, and Mr. Heffernan.

Nominating Committee

The Nominating Committee's responsibilities include:

- Identifying individuals qualified to become board members;
- Recommending to the Board the persons to be nominated for election as directors and to each of the board's committees;
- Reviewing and making recommendations to the Board with respect to senior management succession planning; and
- Overseeing an annual evaluation of the Board.

The members of the Nominating Committee are Dr. Shapiro, Mr. Rabin, Mr. Loshitzer, Mr. Heffernan, Mr. Perry, and Dr. Langer.

Director Candidates

The process followed by the Nominating Committee to identify and evaluate director candidates includes requests to board members and others for recommendations, meetings from time to time to evaluate biographical information and background material relating to potential candidates and interviews of selected candidates by members of the Nominating Committee and the Board.

In considering whether to recommend any particular candidate for inclusion in the Board's slate of recommended director nominees, the Nominating Committee applies certain criteria, including

- The candidate's honesty, integrity and commitment to high ethical standards,
- Demonstrated financial and business expertise and experience,
- Understanding of our company, its business and its industry,

- Actual or potential conflicts of interest, and
- The ability to act in the interests of all stockholders.

The Nominating Committee does not assign specific weights to particular criteria and no particular criterion is a prerequisite for each prospective nominee. We believe that the backgrounds and qualifications of our directors, considered as a group, should provide a significant breadth of experience, knowledge and abilities that will allow our Board to fulfill its responsibilities.

The Nominating Committee will consider director candidates recommended by stockholders or groups of stockholders who have owned more than 5% of our common stock for at least a year as of the date the recommendation is made. Stockholders may recommend individuals to the Nominating Committee for consideration as potential director candidates by submitting their names, together with appropriate biographical information and background materials and a statement as to whether the stockholder or group of stockholders making the recommendation has beneficially owned more than 5% of our common stock for at least a year as of the date such recommendation is made, to the Nominating Committee, c/o Corporate Secretary, Advanced Cell Technology, Inc., 33 Locke Drive, Marlborough, Massachusetts 01752. Assuming that appropriate biographical and background material have been provided on a timely basis, the Committee will evaluate stockholder-recommended candidates by following substantially the same process, and applying substantially the same criteria, as it follows for candidates submitted by others.

Communicating with the Directors

The Board will give appropriate attention to written communications that are submitted by stockholders, and will respond if and as appropriate. The chair of the Audit Committee is primarily responsible for monitoring communications from stockholders and for providing copies or summaries to the other directors as he considers appropriate.

Communications are forwarded to all directors if they relate to important substantive matters and include suggestions or comments that the chair of the Audit Committee considers to be important for the directors to know. In general, communications relating to corporate governance and corporate strategy are more likely to be forwarded than communications relating to ordinary business affairs, personal grievances and matters as to which we tend to receive repetitive or duplicative communications.

Stockholders who wish to send communications on any topic to the Board should address such communications to the Board of Directors, c/o Corporate Secretary, Advanced Cell Technology, Inc., 33 Locke Drive, Marlborough, Massachusetts, 01752. You should indicate on your correspondence that you are an Advanced Cell Technology, Inc. stockholder.

Anyone may express concerns regarding questionable accounting or auditing matters or complaints regarding accounting, internal accounting controls or auditing matters to the Audit Committee by calling (508) 756-1212. Messages to the Audit Committee will be received by the chair of the Audit Committee and our Corporate Secretary. You may report your concern anonymously or confidentially.

Board Leadership Structure and Role in Risk Oversight

Although we have not adopted a formal policy on whether the Chairman and Chief Executive Officer positions should be separate or combined, we have traditionally determined that it is in the best interests of the Company and its stockholders to combine these roles. Mr. Caldwell served as our Chairman from January 2005 until December 13, 2010. From December 14, 2010 and currently, Gary Rabin serves as our Chairman and Chief Executive Officer. Due to the small size and early stage of the Company, we believe it is currently most effective to have the Chairman and Chief Executive Officer positions combined.

Our Audit Committee is primarily responsible for overseeing our risk management processes on behalf of our board of directors. The Audit Committee receives and reviews periodic reports from management, auditors, legal counsel, and others, as considered appropriate regarding our company’s assessment of risks. In addition, the Audit Committee reports regularly to the full Board of Directors, which also considers our risk profile. The Audit Committee and the full Board of Directors focus on the most significant risks facing our company and our company’s general risk

management strategy, and also ensure that risks undertaken by our Company are consistent with the Board's appetite for risk. While the Board oversees our company's risk management, management is responsible for day-to-day risk management processes. We believe this division of responsibilities is the most effective approach for addressing the risks facing our company and that our Board leadership structure supports this approach.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires the Company's directors, executive officers and persons who own more than 10% of the Company's stock (collectively, "Reporting Persons") to file with the SEC initial reports of ownership and changes in ownership of the Company's common stock. Reporting Persons are required by SEC regulations to furnish the Company with copies of all Section 16(a) reports they file. Other than as disclosed below and based solely on a review of the reports furnished to us, or written representations from reporting persons that all reportable transaction were reported, we believe that during the fiscal year ended December 31, 2012, our officers, directors and greater than ten percent stockholders timely filed all reports they were required to file under Section 16(a). Gregory D. Perry, a director, filed Form 4s late with respect to four transactions. Zohar Loshitzer, a director, filed Form 4s late with respect to three transactions. Michael Heffernan, a director, filed a Form 3 late and Form 4s late with respect to four transactions. Gary Rabin, our Chairman and Chief Executive Officer, filed Form 4s late with respect to four transactions. Dr. Alan Shapiro, a director, filed Form 4s late with respect to six transactions. Dr. Robert Langer, a director, filed Form 4s late with respect to three transactions.

Compensation Committee Interlocks and Insider Participation

During 2012, Dr. Shapiro, Mr. Perry, Mr. Loshitzer and Mr. Heffernan served on the Compensation Committee. None of the members of the Compensation Committee has had a relationship with the Company or any subsidiary other than as a director or stockholder. No executive officer of the Company served or serves on the compensation committee or board of any company that employed or employs any member of Company's Compensation Committee or Board of Directors.

Code of Ethics

We have adopted a code of business conduct and ethics that applies to our directors, officers (including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions) as well as our employees. A copy of our code of business conduct and ethics is available on our website at *www.advancedcell.com* under "Investors—Corporate Governance." We intend to post on our website all disclosures that are required by applicable law, the rules of the Securities and Exchange Commission or OTCBB listing standards concerning any amendment to, or waiver from, our code of business conduct and ethics.

Item 11. Executive Compensation.

Compensation Discussion and Analysis

This section describes the compensation program for our named executive officers for 2012 who are Gary Rabin (Chief Executive Officer) and Robert P. Lanza, M.D. (Chief Scientific Officer) (collectively, the "Named Executive Officers"). In particular, this section focuses on our 2012 compensation program and related compensation decisions.

The Board of Directors has established a Compensation Committee, which are independent non-employee directors, which approves all compensation and awards to executive management. The members of the Compensation Committee have extensive executive level experience in other companies and bring a perspective of reasonableness to

compensation matters with our Company. In addition, the Compensation Committee compares executive compensation practices of similar companies at similar stages of development.

The objectives of our compensation program are as follows:

- Reward performance that drives substantial increases in shareholder value, as evidenced through both future operating profits and increased market price of our common shares; and
- Attract, hire and retain well-qualified executives.

The compensation level of our Named Executive Officers generally reflects their unique position and incentive to positively affect our future operating performance and shareholder value. Part of the compensation of our Named Executive Officers is from equity compensation, primarily through stock option grants or restricted stock awards.

Specific salary and bonus levels, as well as the amount and timing of equity incentive grants, are determined informally and judgmentally, on an individual-case basis, taking into consideration each Named Executive Officer's unique talents and experience as they relate to our needs. With respect to equity compensation, the Compensation Committee approves all option grants, generally based on the recommendation of the chief executive officer. Executive compensation is paid or granted pursuant to each Named Executive Officer's compensation agreement. Compensation adjustments are made occasionally based on changes in a Named Executive Officer's level of responsibility or on changed local and specific executive employment market conditions. Based on these factors, the Compensation Committee approved the execution of employment agreement with the Company's only two executive officers.

Compensation Consultant

In July 2012, the Compensation Committee retained Radford (an Aon Hewitt company), or Radford, as an independent compensation consultant to provide executive compensation advice. Radford reports directly to the Compensation Committee.

Radford was hired to perform the following services:

- Assist in developing a peer group to be used to assess executive compensation;
- Assess the executive compensation program and develop recommendations covering salary, incentives and equity compensation;
- Review peer group short-term incentive design practices and assist in developing structure of short-term incentive program for the Compensation Committee.

Radford prepared analyses for the Compensation Committee based on its review of market data it believed to be relevant, including compensation levels at, and financial performance of, the peer group of companies identified below. Radford also met with the Compensation Committee and with management to solicit input on job scope, performance, retention issues and other factors it views as relevant. Radford then prepared a report and presented it to the Compensation Committee with recommendations as to the compensation of the named executive officers.

Based on its analysis of peer group compensation and practices, Radford recommended, and the Compensation Committee approved, that there be no change in 2012 as to the base salaries of the Named Executive Officers (other than what is required by their respective employment agreements) or their equity compensation and that the Company implement a fiscal 2012 performance based bonus opportunity for the Named Executive Officers (which is described further below).

Radford does not provide any executive compensation consulting services other than those requested by the Compensation Committee and which are related to Radford ‘s engagement by the Compensation Committee. Radford does not perform any services directly for management or any other services for the Company and receives no compensation from the Company other than for its work in advising the Compensation Committee.

Given the foregoing, along with (i) the absence of any business or personal relationship between Radford and any member of the Compensation Committee or any of our executive officers, (ii) the fact that Radford does not trade in Company stock, (iii) the fact that Radford has an independence policy that is reviewed annually by its governing

body, and (iv) the fact that Radford proactively notifies the Compensation Committee of any potential or perceived conflicts of interest, the Compensation Committee has concluded that Radford's work does not raise any conflict of interest.

Peer Group

In September 2012, Radford recommended (and the Compensation Committee approved) using the following publicly-traded, US-based companies in the stem cell/biotechnology sector for purposes of assessing the compensation of the Named Executive Officers. The following companies were selected primarily because they generally had fewer than 100 employees and because their market capitalization was less than $300 million. Additionally, with respect to assessing the compensation for the Chief Scientific Officer, Radford supplemented the below peer group information with data from Radford's 2012 Global Life Sciences Survey utilizing publicly traded pre-commercial biotechnology companies with under 100 employees.

- Aastrom Biosciences
- Amicus Therapeutics
- A.P. Pharma
- Athersys
- BiotimeMarket
- Celldex Therapeutics
- Celsion
- Geron
- GTx
- International Stem Cell
- Newlink Genetics
- OncoGenex Pharmaceuticals
- Osiris Therapeutics
- Repligen
- StemCells
- Sunesis Pharmaceuticals

2012 Bonus Incentive

After considering Radford's report and recommendations, and based on discussions with both Radford and Mr. Rabin, the Compensation Committee established a 2012 cash bonus incentive arrangement for the Named Executive Officers. The target bonus opportunity was 60% of annual base salary for Mr. Rabin and 30% of annual base salary for Dr. Lanza. The actual amount of any bonus that was earned could be more or less than the target amount based on the degree of achievement of the specified performance goals.

The 2012 bonus arrangement utilized a performance matrix for the Named Executive Officers with the following four key corporate objectives and which were each weighted as to importance. Each of the below four performance objectives had specified sub-goals (shown below). Each were separately evaluated and graded by the Compensation Committee after the completion of 2012 and which included discussions with Mr. Rabin on the degree of achievement.

- Development of Clinical Data – 37.5% weight - number of sites, number of patients, safety, efficacy.

- Financial Performance – 25% weight -satisfying budget and financing objectives, further developing financial and accounting infrastructure.

- Research & Development – 15% weight – Investigational New Drug preparation and filings and related planning.

- Long Term Development and Strategy – 22.5% weight – developing operating plan framework and key long term objectives.

The Compensation Committee believed that the above objectives were appropriate, challenging and difficult to achieve. In January 2013, the Compensation Committee unanimously concluded that on an overall basis the target performance objectives were achieved and that each of the Named Executive Officers would therefore each receive a cash bonus in an amount equal to their respective target bonus amounts for fiscal 2012.

Compensation Committee Report*

The Compensation Committee has reviewed and discussed the Compensation Discussion and Analysis required by Item 402(b) of Regulation S-K of the Securities Act with management. Based upon that review and analysis, the Compensation Committee recommended to the Board of Directors that the "Compensation Discussion and Analysis"

section be included in this annual report on Form 10-K.

Submitted by the Compensation Committee:

Alan Shapiro

Gregory D. Perry

Zohar Loshitzer

Michael Heffernan

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* The material in this report is not “soliciting material,” is not deemed filed with the SEC and is not to be incorporated by reference into any of our filings under the Securities Act or the Exchange Act whether made before or after the date of this annual report on Form 10-K and irrespective of any general incorporation language therein.

Risk Management Considerations

In response to the ongoing global economic recession, in 2012 the compensation committee considered the incentives under our executive compensation program and whether they introduced or encouraged excessive risk taking or other behaviors by our executives that could have a negative impact on our business. The compensation committee determined that our executive compensation program provides an appropriate balance of incentives and that it does not encourage our executives to take excessive risks or otherwise create risks that are reasonably likely to have a material adverse effect on us.

Summary Compensation Table

The following table summarizes the compensation paid to our Named Executive Officers for the fiscal year ending December 31, 2012, 2011, and 2010.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Stock Awards ($) (1)	Option Awards ($) (1)	Non-Equity Incentive Plan Compensation ($)	All Other Compensation ($)	Total ($)
Gary Rabin (2)	2012	525,000	–	–	–	315,000	–	840,000
Chief Executive Officer	2011	490,000	649,359	2,550,000	3,457,543	–	–	7,146,902
Principal Financial Officer,	2010	18,461	40,000	–	686,896	–	115,692	861,049
and Chairman of the Board of Directors								
Robert P. Lanza, M.D.,	2012	462,000	–	–		138,600	–	600,600
Chief Scientific Officer	2011	407,500	255,000	1,703,931	2,502,971	–	–	4,869,402
	2010	375,000	50,000	2,717,298	–	–	–	3,142,298

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(1) Represents the total grant date fair value, as determined under FASB ASC Topic 718, Stock Compensation, of all shares and stock options granted to the Named Executive Officers during fiscal 2012. Please see the assumptions relating to the valuation of our stock and stock option awards which are contained in Note 14 to the audited financial statements included in this Annual Report on Form 10-K for the fiscal year ended December 31, 2012.

(2) Mr. Rabin served solely as a member of our Board of Directors until December 14, 2010 when he commenced serving as our chief executive officer.

Employment Agreements

Employment Agreement with Gary Rabin

Effective July 1, 2011, the Company entered into an amended and restated employment agreement with Gary H. Rabin (the "Rabin Agreement"). Pursuant to the Rabin Agreement, the parties agreed as follows:

- Mr. Rabin will serve as the Company's chief executive officer and chief financial officer for a term commencing on July 1, 2011 until December 31, 2013 (subject to earlier termination as provided therein).
- The Company will pay Mr. Rabin a base salary of $500,000 per year, through December 31, 2011, which amount shall increase at the end of each full year of the Rabin Agreement, by an amount determined by the board, but by not less than 5% per year.

The Company agreed to pay Mr. Rabin a retention bonus of $41,667 within 10 days of execution of the Rabin Agreement. The retention bonus was paid on August 5, 2011.

- The Company shall pay Mr. Rabin an annual incentive bonus, which will be calculated by reference to the 10-day volume weighted average price ("VWAP") of the Company's common stock, determined as follows:
- The VWAP will be measured at June 30, 2011 (the "June 30 VWAP"), December 31, 2011 (the "2011 VWAP"), December 31, 2012 (the "2012 VWAP "), and December 31, 2013 (the "2013 VWAP"), and the amount of the incentive bonus for a given year shall be as follows:
- For 2011, (x) if the 2011 VWAP is less than 150% of the June 30 VWAP (the "2011 Baseline"), the incentive bonus shall be zero; (y) if the 2011 VWAP is at least 150% of the 2011 Baseline but less than 200% of the 2011 Baseline, the incentive bonus shall be $200,000; and (z) if the 2011 VWAP is at least 200% of the 2011 Baseline, the incentive bonus shall be $450,000.
- For 2012, (x) if the 2012 VWAP is less than 150% of the higher of the June 30 VWAP or the 2011 VWAP (such higher VWAP, the "2012 Baseline "), the incentive bonus shall be zero; (y) if the 2012 VWAP is at least 150% of the 2012 Baseline but less than 200% of the 2012 Baseline, then the incentive bonus shall be $500,000; and (z) if the 2012 VWAP is at least 200% of the 2012 Baseline, then the incentive bonus shall be $1,000,000. For 2013, (x) if the 2013 VWAP is less than 150% of the higher of the June 30 VWAP or the 2012 VWAP (such higher VWAP, the "2013 Baseline"), the incentive bonus shall be zero; (y) if the 2013 VWAP is at least 150% of the 2013 Baseline but less than 200% of the 2013 Baseline, then the incentive bonus shall be $500,000; and (z) if the 2013 VWAP is at least 200% of the 2013 Baseline, then the incentive bonus shall be $1,000,000.
- The Company shall pay Mr. Rabin a performance bonus in amount (not less than $100,000 per year) to be determined by the Compensation Committee of the Board of Directors.
- The Company agreed to issue to Mr. Rabin, upon execution of the Rabin Agreement, (i) 10,000,000 shares of restricted common stock, (ii) an option to purchase 10,000,000 shares of common stock with an exercise price equal to fair market value on the date of grant, (iii) an option to purchase 5,000,000 shares of common stock with an exercise price of $0.30, and (iv) an option to purchase 5,000,000 shares of common stock with an exercise price of $0.45. The options will vest, and the shares will no longer be subject to the Company's right to repurchase for aggregate consideration of $1.00, in equal installments on the last day of each calendar quarter commencing on July 1, 2011 and ending on December 31, 2013.
- If Mr. Rabin's employment under the Rabin Agreement were to be terminated by the Company without Cause (as defined therein), or if Mr. Rabin resigns for Good Reason (as defined therein), the Company will pay Mr. Rabin (in addition to unpaid base salary, performance bonus and incentive bonus to the date of termination), a lump sum equal to the aggregate installments of base salary in effect on the date of termination and otherwise payable in respect of the period commencing on the date immediately subsequent to the date of termination and ending on the earlier to occur of the first anniversary of such date and December 31, 2013; provided, that, Mr. Rabin execute a standard general release within 60 days of termination.

Cause is defined under the Rabin Agreement as:

- an act or acts of fraud or dishonesty undertaken by Mr. Rabin during the course of his employment; misconduct by Mr. Rabin that is willful or deliberate on Mr. Rabin's part and that, in either event, is materially injurious to Company, monetarily or otherwise;

- the indictment, formal charge, conviction of Mr. Rabin of, or Mr. Rabin entering of a plea of nolo contendere to, a misdemeanor involving fraud, theft, dishonesty or moral turpitude or a felony, or Mr. Rabin's debarment by the U.S. Food and Drug Administration from working in or providing services to any pharmaceutical or biotechnology company; or

- the material breach of any terms and conditions of the Rabin Agreement by Mr. Rabin, which failure or breach has not been cured by Mr. Rabin within 30 days after written notice thereof to Mr. Rabin from Company; or Mr. Rabin's

failure to perform his duties or follow the lawful directions of the Board, which failure has not been cured by Mr. Rabin within 30 days after written notice thereof to Mr. Rabin from the Company.

Good Reason is defined in the Rabin Agreement as:

(i) any removal of Mr. Rabin from, or any failure to nominate or re-elect Mr. Rabin to, his current office and/or as the Chairman of the Board, except in connection with the termination of Mr. Rabin's employment for death, disability or Cause;

(ii) the failure of Company to obtain the assumption of the Rabin Agreement by any successor to the Company;

(iii) in the event of a Change in Control (as defined in the Employment Agreement):

a. (1) any reduction in Mr. Rabin's then-current base salary or any material reduction in Mr. Rabin's comprehensive benefit package (other than changes, if any, required by group insurance carriers applicable to all persons covered under such plans or changes required under applicable law), without Mr. Rabin's prior written consent, or (2) the assignment to Mr. Rabin of duties that represent or constitute a material adverse change in Mr. Rabin's position, duties, responsibilities and status with Company immediately prior to a Change in Control, without Mr. Rabin's prior written consent, or (3) a material adverse change in Mr. Rabin's reporting responsibilities, titles, offices, or any removal of Mr. Rabin from, or any failure to re-elect Mr. Rabin to, any of such positions; except in connection with the termination of Mr. Rabin's employment for Cause, upon the disability or death of Mr. Rabin, or upon the voluntary termination by Mr. Rabin;

b. the relocation of Mr. Rabin's place of employment from the location at which Mr. Rabin was principally employed immediately prior to the date of the Change in Control to a location more than 50 miles from such location, without Mr. Rabin's prior written consent; or Agreement; or

c. the failure of any successor to Company to assume and agree to perform Company's obligations under the Rabin

(iv) the material breach of any terms and conditions of the Rabin Agreement by the Company.

A Change in Control in the Rabin Agreement has the same meaning as a Change in Control under the 2005 Stock Incentive Plan, as may be amended, which is defined as (1) a sale of all or substantially all of the Company's assets, or (2) any merger, consolidation or other business combination transaction of the Company with or into another corporation, entity or person, other than a transaction in which the holders of at least a majority of the shares of voting capital stock of the Company outstanding immediately prior to such transaction continue to hold (either by such shares remaining outstanding or by their being converted into shares of voting capital stock of the surviving entity) a majority of the total voting power represented by the shares of voting capital stock of the Company (or the surviving entity) outstanding immediately after such transaction, or (3) the direct or indirect acquisition (including by way of a tender or exchange offer) by any person, or persons acting as a group, of beneficial ownership or a right to acquire beneficial ownership of shares representing a majority of the voting power of the then outstanding shares of capital stock of the Company.

Employment Agreement with Robert P. Lanza, M.D.

Effective July 1, 2011, the Company entered into an amended and restated employment agreement with Robert Lanza (the "Lanza Agreement"). Pursuant to the Lanza Agreement, the parties agreed as follows:

- Dr. Lanza will continue serve as the Company's chief scientific officer for a term commencing on July 1, 2011 until September 30, 2013 (subject to earlier termination as provided therein, and extension by mutual written agreement).
- The Company will pay Dr. Lanza a base salary of $440,000 per year, which amount shall increase at the end of each year of the Lanza Agreement, by an amount determined by the board, but by not less than 5% per year. The Company may also pay Dr. Lanza annual bonuses in the Company's sole discretion.
- The Company agreed to issue to Dr. Lanza, upon execution of the Lanza Agreement, (i) 15,000,000 shares of restricted common stock (of which 6,000,000 shares will vest on the date of grant, with the balance of 9,000,000 shares vesting in equal installments on the last day of each month commencing on January 31, 2012 and ending on September 30, 2013), (ii) an option to purchase 15,000,000 shares of common stock with an exercise price equal to the closing price on the date of execution (of which 6,000,000 options will vest on the date of grant, with the balance of 9,000,000 options vesting in equal installments on the last day of each month commencing on January 31, 2012 and ending on September 30, 2013).
- If Dr. Lanza's employment under the Lanza Agreement were to be terminated by the Company without Cause (as defined in the Lanza Agreement), or if Dr. Lanza resigns for Good Reason (as defined in the Lanza Agreement the Company will pay Dr. Lanza severance equal to one year base salary.

Cause is defined in the Lanza Agreement as A) Dr. Lanza being convicted of or pleading guilty (or no contest) to a felony or fraud, or Dr. Lanza's violation of any criminal or civil law relating to, or that materially impacts, Dr. Lanza's performance of his duties, (B) Dr. Lanza's debarment, if caused by his own actions, by the United States Food and Drug Administration from working in or providing services to any pharmaceutical or biotechnology company; (C) Dr. Lanza's material breach of the Lanza Agreement or the material failure of Dr. Lanza to properly perform Dr. Lanza's job responsibilities, but only if Dr. Lanza did not correct (if reasonably capable of correction) such breach or failure within 30 days of written notification to Dr. Lanza by the Company of such breach or failure; or (D) commission of any act of gross fraud or misconduct with respect to the Company.

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Good Reason is defined in the Lanza Agreement as A) the termination of Dr. Lanza's employment by Dr. Lanza because of a material diminution in the duties of Dr. Lanza at the direction of the Company after written notice from Dr. Lanza to the Company of the specific duties and material changes in Dr. Lanza's duties to which he objects, the reasons for his objections, and his intent to terminate his employment because of such material changes, said written notice to be served on the Company by Dr. Lanza within ninety (90) days of Dr. Lanza's knowledge of such alleged material changes, and the Company's failure to modify within thirty (30) days of the written notice the duties to Dr. Lanza conform to those duties currently in existence for the previous 90 days; (B) the termination of Dr. Lanza's employment by Dr. Lanza because of a material breach of the Lanza Agreement by the Company after written notice from Dr. Lanza to the Company of the specific material breach asserted by Dr. Lanza, said written notice to be served on the Company by Dr. Lanza within ninety (90) days of Dr. Lanza's knowledge of such alleged material breach, and the Company's failure to cure such breach within thirty (30) days of the written notice; or (C) the termination of Dr. Lanza's employment by Dr. Lanza because of the relocation by Company by more than fifty (50) miles of Dr. Lanza's place of employment without his consent, provided that Dr. Lanza provides written notice to Company of the intention to terminate employment as the result of such relocation within thirty (30) days following the date on which Dr. Lanza is given notice of the proposed relocation and the Company fails to remedy the situation within thirty (30) days of the written notice from Dr. Lanza (it being understood that Dr. Lanza will not be required to relocate temporarily in order to exercise this right). The sale of the Company or any other change in control of the Company shall not, in and of itself, constitute a material diminution in duties of the Dr. Lanza under (A) above.

Change in Control has the same definition under the Lanza Agreement as it has under the Rabin Agreement.

2005 Stock Incentive Plan

The Company maintains the stockholder approved 2005 Stock Incentive Plan pursuant to which equity-based compensation awards can be awarded to the Named Executive Officers and other service providers. Unless terminated earlier, the 2005 Stock Incentive Plan will terminate in January 2015. The 2005 Stock Incentive Plan is currently administered by the compensation committee of our Board of Directors. Any of our employees, directors, non-employee directors and consultants, as determined by the compensation committee, may be selected to participate in the 2005 Stock Incentive Plan. We may award these individuals with one or more of the stock options, stock purchase rights, restricted shares and/or other equity based awards.

The maximum aggregate number of common shares under the 2005 Stock Incentive Plan that may be awarded is 9,000,000, plus an annual increase on the first day of each of the Company's fiscal years beginning in 2006 equal to 5% of the common shares outstanding on the last day of the immediately preceding fiscal year. The shares may be authorized, but unissued, or reacquired Common Stock. If an award should expire or become unexercisable for any reason without having been exercised in full, or is surrendered pursuant to an option exchange program, the unpurchased shares that were subject thereto shall, unless the 2005 Stock Incentive Plan shall have been terminated, become available for future grant under the 2005 Stock Incentive Plan. In addition, any shares which are retained by the Company upon exercise of an award in order to satisfy the exercise or purchase price for such award or any withholding taxes due with respect to such exercise or purchase shall be treated as not issued and shall continue to be available under the 2005 Stock Incentive Plan. Shares issued under the 2005 Stock Incentive Plan and later repurchased by the Company pursuant to any repurchase right which the Company may have shall be available for future grant under the 2005 Stock Incentive Plan. The maximum number of shares that may be subject to stock options and stock purchase rights granted to any one employee under the 2005 Stock Incentive Plan for any fiscal year of the Company shall be 1,500,000. As of December 31, 2012, 234,147,328 shares remained available for issuance under the 2005 Stock Incentive Plan and there were 99,531,642 shares subject to outstanding stock options and unvested shares granted under the 2005 Stock Incentive Plan.

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Grants of Plan-Based Awards

Name and Principal Position	Estimated Possible Payouts under Non-Equity Incentive Plan Awards Threshold ($)	Target ($)	Maximum ($)
Gary Rabin[1][3]			
Chief Executive Officer and Chairman	100,000[2]	315,000	393,750
	--	--	1,000,000[3]
Robert P. Lanza, M.D.[1]			
Chief Scientific Officer	69,300	138,600	173,250

(1) Each Named Executive Officer was eligible to earn a fiscal 2012 performance-based bonus pursuant to his employment agreement as discussed above under “Employment Agreements.” The 2012 bonus program is described above under “2012 Bonus Incentive” and the amounts paid are also shown above in the Summary Compensation Table. The targets were based on a percentage of annual base salary and this was 60% for Mr. Rabin and 30% of salary for Dr. Lanza. The actual bonus could be more or less than the target based on a threshold achievement level of at least 50% but no more than 125%.

(2) In accordance with Mr. Rabin’s employment agreement, he is entitled to no less than $100,000 per year for any performance-based bonus.

(3) Pursuant to Mr. Rabin’s employment agreement, Mr. Rabin was also eligible to earn a fiscal 2012 incentive-based bonus based on the trading price of the Company’s common stock as discussed above under “Employment Agreements.” The maximum amount Mr. Rabin was eligible to receive was $1,000,000.

Outstanding Equity Awards at December 31, 2012

The following table shows the number of shares of common stock covered by stock options and also unvested stock held by the Named Executive Officers as of December 31, 2012.

	Number of Securities Underlying Unexercised Options Exercisable		Unexercisable	Option Exercise Price	Option Expiration Date	Number of shares or units of stock that have not vested		Market value of shares or units of stock that have not vested
Name	#		#	($)	($)	#		$
Gary Rabin	5,000,000	(1)	–	0.140	12/29/2020	4,000,000	(9)	222,800
Chief	6,000,000	(2)	4,000,000	0.185	7/1/2021			
Executive	3,000,000	(2)	2,000,000	0.30	7/1/2021			
Officer and Chairman	3,000,000	(2)	2,000,000	0.45	7/1/2021			
Robert P. Lanza,	500,000	(3)	–	0.85	1/31/2015	3,857,144	(10)	214,843
M.D.,	250,000	(4)	–	2.20	9/15/2015			
Chief	4,000,000	(5)	–	0.21	2/7/2018			
Scientific	5,350,000	(6)	–	0.098	11/13/2019			
Officer	1,783,333	(7)	–	0.195	1/10/2021			
	11,142,857	(8)	3,857,143	0.157	8/8/2021			

(1) These options held by Mr. Rabin vested in full as of July 1, 2011.

(2) These options held by Mr. Rabin vest in equal installments on the last day of each calendar quarter commencing on July 1, 2011 and ending December 31, 2013.

(3) These options held by Dr. Lanza vested in full as of January 31, 2009.

(4) These options held by Dr. Lanza vested in full as of December 31, 2006.

(5) These options held by Dr. Lanza vested in full as of February 7, 2010.

(6) These options held by Dr. Lanza vested in full as of November 13, 2010.

(7) These options held by Dr. Lanza originally vested evenly over three years but vesting was accelerated when Dr. Lanza signed a new employment agreement in 2011. Under the new vesting schedule, the options became fully vested on March 31, 2012.

(8) These options held by Dr. Lanza vest as follows: 6,000,000 vested immediately on grant with the remaining 9,000,000 vesting in 21 equal installments on the last day of each month beginning on January 31, 2012 and ending on September 30, 2013.

(9) These shares were granted to Mr. Rabin under the Rabin Agreement and vest in equal installments on the last day of each calendar quarter from July 1, 2011 through December 31, 2013. The value is based on our closing market share price on December 31, 2012 of $0.0557.

(10) These shares were granted to Dr. Lanza under the Lanza Agreement and vest in equal installments on the last day of each calendar quarter from July 1, 2011 through September 30, 2013. The value is based on our closing market share price on December 31, 2012 of $0.0557.

Option exercises and stock vested—fiscal year 2012

With respect to the Named Executive Officers during the fiscal year ended December 31, 2012, there were no exercises of stock options and the table below indicates the fair value of the restricted stock at the vesting dates during the period:

	Stock Awards	
Name	Number of shares acquired on vesting	Value realized on vesting ($)
Gary Rabin	4,000,000	$284,900
Robert Lanza	5,142,856	$363,086

Pension Benefits

We do not have any plan which provides for payments or other benefits at, following, or in connection with retirement.

Non-qualified Deferred Compensation

We do not have any defined contribution or other plan which provides for the deferral of compensation on a basis that is not tax-qualified.

Payments made upon involuntary termination by the Company without cause or for good reason by executive, or company change in control transaction

This section provides estimates for compensation payable to each Named Executive Officer under hypothetical termination of employment and change in control scenarios under our compensatory arrangements with the Named Executive Officers (other than nondiscriminatory arrangements generally available to salaried employees). The amounts shown below are estimates and assume the hypothetical involuntary termination or change in control occurred on December 31, 2012, the last day of fiscal 2012, applying the provisions of the employment agreements that were in effect as of such date. Due to the number of factors and assumptions that can affect the nature and amount of any benefits provided upon the events discussed below, any amounts paid or distributed upon an actual event may differ.

Pursuant to the terms of the Rabin Agreement, if Mr. Rabin had been terminated without Cause or had resigned for Good Reason on December 31, 2012, subject to Mr. Rabin executing a general release of claims against the Company, Mr. Rabin would have been entitled to: (i) within 60 days of December 31, 2012, a lump sum payment of $525,000 (equal to his annual base salary then in effect), and (ii) reimbursement of Mr. Rabin on a month-to-month basis of an amount equivalent to Mr. Rabin's and Mr. Rabin's spouse and dependent's COBRA payments for up to 18 months following the date of termination if Mr. Rabin were to properly elective COBRA coverage, or for the maximum COBRA term allowable by then applicable law for coverage of Mr. Rabin, and his spouse and dependents, for an estimated $20,000 in reimbursements over 18 months, and (iii) full vesting of the stock options and restricted stock incentive awards granted under the Rabin Agreement. Additionally, if a change in control had occurred on December 31, 2012, then the stock options and restricted stock incentive awards granted under the Rabin Agreement to Mr. Rabin would have fully vested. The fair value for the accelerated vesting would be approximately $223,000.

Pursuant to the terms of the Lanza Agreement, if Dr. Lanza had been terminated without Cause or had resigned for Good Reason on December 31, 2012, Dr. Lanza would have been entitled to total payments of $462,000 (equal to his annual base salary then in effect), payable in regular semi-monthly installments during the twelve (12) months immediately following the termination of Dr. Lanza's employment with the Company. If a change in control had occurred on December 31, 2012, then all stock options previously issued to Dr. Lanza would have been to be fully vested (and all restrictions associated with restricted stock to be issued to Dr. Lanza under the Lanza Agreement would have been lifted) if Dr. Lanza was not retained by the acquiring or surviving company. If Dr. Lanza had been retained by the acquiring or surviving company after a change of control then vesting of all previously issued stock options would have accelerated by a period of one (1) year from the date on which they would normally have vested. The fair value for the accelerated vesting would be approximately $215,000.

DIRECTOR COMPENSATION – FISCAL YEAR 2012

Director Compensation Arrangements

Non-employee members of the Company's Board of Directors receive: (1) an initial grant of 100,000 vested common shares, (2) an annual grant of 500,000 shares of common stock (with 125,000 vested shares issued quarterly), (3) an annual grant on the first business day of each fiscal year of a vested 10 year term nonstatutory stock option covering 500,000 shares with an exercise price equal to the fair market value of a common share on the date of grant, (4) an annual retainer of $40,000 (payable quarterly) and (5) a cash payment for attendance at each board meeting in the amount of $2,000 for in-person meetings and $1,000 for telephonic meetings and $500 for monthly update telephone meetings. With respect to service on the Company's Audit Committee, Compensation Committee or the Nominating and Corporate Governance Committee, the Chair receives a payment of $1,500 per meeting and the other members receive $1,000 per meeting. Each director is entitled to receive payment of their fees in the form of shares of the

Company's Common Stock valued at 150% of their fees. Directors who are also one of our employees, such as Mr. Rabin, do not and will not receive any compensation for their services as our directors while they are also serving as an employee. Directors have been and will continue to be reimbursed for travel and other expenses directly related to activities as directors. The foregoing compensation structure for the non-employee directors was established and approved by the Compensation Committee and unanimously ratified by the full Board of Directors in October 2012.

The table below shows compensation paid to the non-employee directors in 2012.

Name	Fees Earned or Paid in Cash ($)	Stock Awards ($)(1)	Option Awards ($)(1)	Total ($)
Alan C. Shapiro, Ph.D. (2)	–	143,713	41,759	185,472
Robert Langer, SC.D. (3)	130,500	35,713	41,759	207,972
Zohar Loshitzer (4)	63,000	35,713	41,759	140,472
Gregory D. Perry (5)	61,500	35,713	41,759	138,972
Michael Heffernan (6)	47,000	32,463	26,876	106,339

(1) Represents the total grant date fair value, as determined under FASB ASC Topic 718, Stock Compensation, of all shares and stock options granted to the directors during fiscal 2012. Assumptions used to calculate the fair market value of a common share for these awards are included in Note 14, to our audited financial.

(2) Dr. Shapiro received 1,960,017 shares at a share price of $0.073. Dr. Shapiro received 500,000 options on January 1, 2012 that vested immediately, with an exercise price and share price at date of grant of $0.09.

(3) Dr. Langer received 500,000 shares at a share price of $0.0714. Dr. Langer received 500,000 options on January 1, 2012 that vested immediately, with an exercise price and share price at date of grant of $0.09.

(4) Mr. Loshitzer received 500,000 shares at a share price of $0.0714. Mr. Loshitzer received 500,000 options on January 1, 2012 that vested immediately, with an exercise price and share price at date of grant of $0.09.

(5) Mr. Perry received 500,000 shares at a share price of $0.0714. Mr. Perry received 500,000 options on January 1, 2012 that vested immediately, with an exercise price and share price at date of grant of $0.09.

(6) Mr. Heffernan received 475,000 shares at a price of $0.0683. Mr. Heffernan also received 362,022 options on April 11, 2012 that vested immediately, with an exercise price and a share price at date of grant $0.08.

The table below shows the number of stock options held by each non-employee director as of December 31, 2012.

Name	Stock Options
Alan C. Shapiro, Ph.D.	1,100,000
Robert Langer, SC.D.	2,625,000
Zohar Loshitzer	583,333
Gregory D. Perry	541,667
Michael Heffernan	362,022

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

Beneficial Ownership of Directors, Officers and 5% Stockholders

The following table sets forth certain information regarding the beneficial ownership of our Common Stock as of February 4, 2013. On such date, 2,336,603,922 shares of common stock were outstanding.

Beneficial ownership is determined in accordance with the applicable rules of the Securities and Exchange Commission and includes voting or investment power with respect to shares of our common stock. In computing the number of shares of common stock beneficially owned by a person and the percentage ownership of that person, we deemed as outstanding shares of common stock subject to options or warrants held by that person that are currently exercisable or exercisable within 60 days of February 4, 2013. We did not deem these shares outstanding, however, for the purpose of computing the percentage ownership of any other person. The information set forth below is not

necessarily indicative of beneficial ownership for any other purpose, and the inclusion of any shares deemed beneficially owned in this table does not constitute an admission of beneficial ownership of those shares.

Unless otherwise indicated, to our knowledge, all persons named in the table have sole voting and investment power with respect to their shares of common stock, except, where applicable, to the extent authority is shared by spouses under applicable state community property laws.

The following table sets forth information regarding beneficial ownership of our capital stock as of February 4, 2013 by:

- 5% or greater stockholders;
- Each of our directors and named executive officers; and
- All of our directors and executive officers, as a group.

Name and Address [1] of Beneficial Owner	Number of Shares Beneficially Owned		Percentage	
5% or Greater Stockholders				
None				
Directors and Named Executive Officers				
Gary Rabin	29,262,401	(2)	1.24	%
Robert P. Lanza, M.D.	43,073,844	(3)	1.82	%
Alan C. Shapiro	26,124,802	(4)	1.12	%
Robert Langer	5,183,333	(5)	*	
Zohar Loshitzer	1,766,666	(6)	*	
Gregory D. Perry	1,683,334	(7)	*	
Michael Heffernan	1,337,022	(8)	*	
Directors and Executive Officers as a Group (7 Persons)	108,431,402		4.61	%

(1) Unless otherwise indicated, the address of the beneficial owner is 33 Locke Drive, Marlborough, Massachusetts 01752.

(2) Includes 19,000,000 shares subject to stock options that are currently exercisable or exercisable within 60 days of February 4, 2013.

(3) Includes 24,311,903 shares subject to stock options that are currently exercisable or exercisable within 60 days of February 4, 2013.

(4) Includes (i) 24,524,802 shares subject to convertible debentures, board fees, common stock grant held by The Shapiro Family Trust and of which Dr. Shapiro may be deemed the beneficial owner, (ii) 1,600,000 shares subject to stock options that are currently exercisable or exercisable within 60 days of February 4, 2013.

(5) Includes 2,458,333 shares subject to stock options that are currently exercisable or exercisable within 60 days of February 4, 2013.

(6) Includes 1,083,333 shares subject to stock options that are currently exercisable or exercisable within 60 days of February 4, 2013.

(7) Includes 1,041,667 shares subject to stock options that are currently exercisable or exercisable within 60 days of February 4, 2013.

(8) Includes 862,022 shares subject to stock options that are currently exercisable or exercisable within 60 days of February 4, 2013.

There are no arrangements known to the Company, including any pledge by any person of securities of the Company, the operation of which may at a subsequent date result in a change in control of the Company.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table shows information with respect to each equity compensation plan under which the Company's common stock is authorized for issuance as of the fiscal year ended December 31, 2012

EQUITY COMPENSATION PLAN INFORMATION

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)		Weighted average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for issuance under equity compensation plans (excluding securities reflected in column (a)) (c)	
Equity compensation plans approved by security holders	100,672,803	(1)	$ 0.22	234,455,328	(2)
Equity compensation plans not approved by security holders	5,873,511	(3)	$ 0.34	–	
Total	106,546,314			234,455,328	

(1) Awards for 2,492,000 options have been issued under the Advanced Cell Technology, Inc. 2004 Stock Option Plan I ("2004 Plan 1"), 1,301,161 options have been issued under the Advanced Cell Technology, Inc. 2004 Stock Option Plan II ("2004 Plan 2" and together with the 2004 Plan I, the "2004 ACT Plans"), and 104,042,168 options have been issued under the 2005 Stock Plan.

(2) This number included 308,000 shares available under the 2004 Plan I, 0 shares available under the 2004 Plan II and 234,147,328 shares available under the 2005 Stock Plan.

(3) The number reflects the aggregate number of shares underlying compensatory warrants that have been issued and continue to be outstanding as of December 31, 2012. Each warrant was part of a separate equity compensation arrangement.

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

None of the following parties has, during the year ended December 31, 2012, had any material interest, direct or indirect, in any transaction with us or in any presently proposed transaction that has or will materially affect us, other than as noted in this section:

- Any of our directors or officers,
- Any person proposed as a nominee for election as a director,
-

Any person who beneficially owns, directly or indirectly, shares carrying more than 5% of the voting rights attached to our outstanding shares of common stock,

- Any of our promoters, and
- Any relative or spouse of any of the foregoing persons who has the same house as such person.

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On January 31, 2012, the Shapiro Family Trust received 5,532,198 shares of our common stock valued at $608,542 upon cashless exercise of the warrants in connection with the 2005-2008 convertible debentures and in accordance with the December 7, 2011 global settlement agreement. Dr. Shapiro, one of the our directors, may be deemed the beneficial owner of the securities owned by the Shapiro Family Trust.

On January 31, 2012, PDPI, LLC received 11,204,101 of our common stock valued at $1,232,451 upon cashless exercise of warrants in accordance with the December 7, 2011 global settlement agreement. Mr. Rabin, our Chief Executive Officer and Chairman of the Board of Directors, has a 33.33% equity interest in the entity.

The Company complies with the standards of "independence" prescribed by the Nasdaq Marketplace Rules. Accordingly, our Board of Directors has determined that Dr. Alan Shapiro, Mr. Robert Langer, Mr. Zohar Loshitzer, Mr. Gregory Perry and Mr. Michael Heffernan meet the definition of "independent director" as defined in Rule 5605(a)(2) of the Nasdaq Marketplace Rules.

Item 14. Principal Accounting Fees and Services.

The following table summarizes the fees of our current independent registered public accounting firm, SingerLewak LLP, billed to us for each of the last three fiscal years for audit services and billed to us in each of the last three years for other services:

Fee Category	2012	2011	2010
Audit Fees	$238,000	$231,000	$215,000
Audit Related Fees	$87,108	$36,500	33,102
Tax Fees	$–	$–	$–
All Other Fees	$–	$–	$–

Audit fees consist of aggregate fees billed for professional services rendered for the audit of the Company's annual financial statements and review of the interim financial statements included in quarterly reports or services that are normally provided by the independent auditor in connection with statutory and regulatory filings or engagements for the fiscal years ended December 31, 2012, 2011 and 2010.

Audit related fees consist of aggregate fees billed for assurance and related services that are reasonably related to the performance of the audit or review of the Company's financial statements and are not reported under "Audit Fees." These fees include review of registration statements and participation at meetings of the audit committee.

Tax fees consist of aggregate fees billed for professional services for tax compliance, tax advice and tax planning.

All other fees consist of aggregate fees billed for products and services provided by the independent auditor, other than those disclosed above. These fees include services related to certain accounting research and assistance with a regulatory matter.

The Company’s policy is to pre-approve all audit and permissible non-audit services provided by the independent auditors. These services may include audit services, audit-related services, tax services and other services. Pre-approval is generally provided for up to one year and any pre-approval is detailed as to the particular service or category of services and is generally subject to a specific budget. The independent auditors and management are required to periodically report to the audit committee regarding the extent of services provided by the independent auditors in accordance with this pre-approval, and the fees for the services performed to date. To the extent that additional services are necessary beyond those specifically budgeted for, the audit committee and management pre-approve such services on a case-by-case basis. All services provided by the independent auditors were approved by the Audit Committee.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a)(1) Financial Statements

The following is a list of the Financial Statements included in Item 8 of Part II of this Report.

(a)(2) Financial Statement Schedules

Schedules not included herein are omitted because they are inapplicable or not required or because the required information is given in the financial statements and notes thereto.

(b)

The exhibits required by this item and included in this report or incorporated herein by reference are as follows:

Exhibit No.	Document Description	Incorporation by Reference
3.1	Certificate of Incorporation of the Registrant dated November 17, 2005	Previously filed as Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on November 21, 2005 and incorporated by reference herein.
3.2	Certificate of Amendment to Certificate of Incorporation dated October 13, 2006	Previously filed as Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on October 13, 2006 and incorporated by reference herein.
3.3	Certificate of the Powers, Designations, Preferences and Rights of the Series A-1 Convertible Preferred Stock dated March 5, 2009	Previously filed as Exhibit 4.1 to the Registrant's Quarterly Report on Form 10-Q filed on July 20, 2009 and incorporated by reference herein.
3.4	Certificate of Amendment to Certificate of Incorporation dated September 15, 2009	Previously filed as Exhibit 3.15 to Registrant's Registration Statement on Form S-1 filed November 18, 2009 and herein incorporated by reference.

3.5	Certificate of Designations of Preferences, Rights and Limitations of Series B Preferred Stock dated November 3, 2009	Previously filed as Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on November 13, 2009 and incorporated by reference herein.
3.6	Certificate of Designations of Preferences, Rights and Limitations of Series C Preferred Stock dated December 30, 2010	Previously filed as Exhibit 3.1 to the Registrant’s Current Report on Form 8-K filed on January 3, 2011 and incorporated herein by reference.
3.7	Certificate of Amendment to Certificate of Incorporation dated January 24, 2012	Previously filed as Exhibit 3.1 to the Registrant’s Current Report on Form 8-K filed on January 30, 2012 and incorporated herein by reference.
3.8	Bylaws of the Registrant	Previously filed as Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed on November 21, 2005 and incorporated by reference herein.

3.9	Amendment No. 1 to Bylaws of the Registrant	Previously filed as Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed on November 30, 2007 and incorporated by reference herein.
4.1	Specimen Stock Certificate	Previously filed as Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed on November 21, 2005 incorporated by reference herein.
4.2	Form of $0.05 Warrant to Purchase Common Stock of the Registrant*	Previously filed as Exhibit 4.2 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
4.3	Form of $0.25 Warrant to Purchase Common Stock of the Registrant *	Previously filed as Exhibit 4.3 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
4.4	$0.25 Warrant to Purchase Common Stock of the Registrant issued to Gunnar Engstrom	Previously filed as Exhibit 4.4 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
4.5	Form of $0.85 Warrant to Purchase Common Stock of ACT Holdings, Inc.	Previously filed as Exhibit 4.5 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 incorporated by reference herein.
4.6	Form of $1.27 Warrant to Purchase Common Stock of the Registrant	Previously filed as Exhibit 4.6 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
4.7	Form of $2.00 Warrant to Purchase Common Stock of ACT Holdings, Inc.	Previously filed as Exhibit 4.7 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.

4.8	Form of Subscription Agreement to Purchase Series A Convertible Preferred Stock of the Registrant	Previously filed as Exhibit 4.8 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
4.9	Form of Share Purchase Agreement to purchase common stock of Two Moons Kachinas Corp. ("TMOO"), the predecessor to the Registrant	Previously filed as Exhibit 4.9 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
4.10	Form of Lock-Up Agreement entered into by certain sellers of TMOO common stock	Previously filed as Exhibit 4.10 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
4.11	Form of Lock-Up Agreement entered into by certain buyers of TMOO common stock	Previously filed as Exhibit 4.11 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
4.12	Investor's Rights Agreement dated December 31, 1998 by and between the Registrant and Avian Farms, Inc.	Previously filed as Exhibit 4.12 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
9.1	Form of Voting Agreement for shares of common stock of the Registrant held by certain parties effective as of January 31, 2005	Previously filed as Exhibit 9.1 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.1	Exclusive License Agreement dated April 16, 1996 by and between the University of Massachusetts and the Registrant, as amended on September 1, 1997, May 31, 2000 and September 19, 2002	Previously filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.2	Materials and Research Data License Agreement dated January 26, 2001 by and between Wake Forest University and the Registrant	Previously filed as Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005) and incorporated by reference herein.
10.3	July 1, 2002 Assignment to Wake Forest University Health Sciences	Previously filed as Exhibit 10.3.1 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by

		reference herein.
10.4	Exclusive License Agreement dated April 1, 2003 by and between the University of Massachusetts and the Registrant	Previously filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.5	Exclusive License Agreement dated October 22, 2003 by and between the Registrant and Exeter Life Sciences, Inc.	Previously filed as Exhibit 10.13 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.

10.6	Letter of Intent dated March 16, 2003 by and between Exeter Life Sciences, Inc. and the Registrant	Previously filed as Exhibit 10.13.1 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.7	Sponsored Research Agreement dated March 16, 2003 by and between Blue Horse Labs, Inc. and the Registrant	Previously filed as Exhibit 10.13.2 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.8	Exclusive License Agreement (Infigen IP) dated May 14, 2004 by and between the Registrant and PacGen Cellco, LLC	.Previously filed as Exhibit 10.19 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.9	First Amendment to Exclusive License Agreement (Infigen IP) dated August 25, 2005 by and between the Registrant and PacGen Cellco, LLC	Previously filed as Exhibit 10.19.1 to the Registrant’s Registration Statement on Form SB-2 filed on October 14, 2005 and incorporated by reference herein.
10.10	Exclusive License Agreement (UMass IP) dated May 14, 2004 by and between the Registrant and PacGen Cellco, LLC	Previously filed as Exhibit 10.20 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.11	First Amendment to Exclusive License Agreement (UMass IP) dated August 25, 2005 by and between the Registrant and PacGen Cellco, LLC	Previously filed as Exhibit 10.20.1 to the Registrant’s Registration Statement on Form SB-2 filed on October 14, 2005 and incorporated by reference herein.
10.12	Exclusive License Agreement (ACT IP) dated May 14, 2004by and between the Registrant and PacGen Cellco, LLC	Previously filed as Exhibit 10.21 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.13	First Amendment to Exclusive License Agreement (ACT IP) dated August 25, 2005 by and between the Registrant and PacGen Cellco, LLC	Previously filed as Exhibit 10.21.1 to the Registrant’s Registration Statement on Form SB-2 filed on October 14, 2005 and incorporated by reference herein.

10.14	Agreement to Amend ACT/CELLCO License Agreements dated September 7, 2004 by and between the Registrant and PacGen Cellco, LLC	Previously filed as Exhibit 10.22 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.15	Indemnification Agreement of David Merrell to certain buyers of TMOO common stock dated December 31, 2004	Previously filed as Exhibit 10.23 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.16	Convertible Promissory Note issued by the Registrant to A.C.T. Group, Inc. dated July 12, 2002 in the amount of $1,000,000	Previously filed as Exhibit 10.24 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.17	Promissory Note issued by the Registrant to Pierce Atwood LLP dated January 2005 in the amount of $150,000	Previously filed as Exhibit 10.25 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.18	Promissory Note issued by the Registrant to Pierce Atwood dated July 1, 2003 in the amount of $339,000	Previously filed as Exhibit 10.26 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.19	Promissory Note issued by the Registrant to Rothwell, Figg, Ernst & Manbeck, P.C. dated July 8, 2003 in the amount of $272,108	Previously filed as Exhibit 10.27 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.20	Forbearance and Stock Purchase Agreement dated July 16, 1999 by and among Avian Farms, Inc., A.C.T. Group, Inc., the Registrant and Cima Biotechnology, Inc., as amended on December 23, 1999	Previously filed as Exhibit 10.28 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.21	Securityholders' Agreement dated November 20, 2001 by and among the Registrant, A.C.T. Group, Cyagra, Inc. and Goyaike S.A.	Previously filed as Exhibit 10.29 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.22	Securityholders' Agreement dated July 1, 2002 by and among the Registrant, A.C.T. Group, Cyagra, Inc. and Goyaike S.A.	Previously filed as Exhibit 10.30.1 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by

		reference herein.
10.23	Summary of Terms of Collaboration Agreement and Technology License dated July 1, 2002	Previously filed as Exhibit 10.30.2 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.24	Separation Agreement dated July 1, 2002 by and among the Registrant, A.C.T. Group, Cyagra, Inc. and Goyaike S.A.	Previously filed as Exhibit 10.30.3 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.

10.25	Membership Interest Exchange and Asset Sale Agreement dated May 31, 2000 by and among the Registrant and Hematech, LLC, et al.	Previously filed as Exhibit 10.31 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.26	Buyout Option Agreement dated May 31, 2000 by and between Hematech and the Registrant	Previously filed as Exhibit 10.31.1 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.27	Space Sublease Agreement dated November, 2004, between BioReliance and the Registrant, for 381 Plantation Street, Worcester, MA 01605	Previously filed as Exhibit 10.32 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.28	Advanced Cell Technology, Inc. 2004 Stock Option Plan*	Previously filed as Exhibit 10.33 to the Registrant’s Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.29	Advanced Cell Technology, Inc. 2004 Stock Option Plan II*	Previously filed as Exhibit 10.34 to the Registrant's Quarterly Report on Form 10- QSB filed on May 23, 2005 and incorporated by reference herein.
10.30	A.C.T. Holdings, Inc. 2005 Stock Option Plan*	Previously filed as Appendix A to the Registrant's preliminary proxy statement on Form PRE-14A filed on May 10, 2005 and incorporated by reference herein.
10.31	Form of Incentive Stock Option Agreement*	Previously filed as Exhibit 10.36 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.32	Form of Nonqualified Stock Option Agreement*	Previously filed as Exhibit 10.37 to the Registrant's Quarterly Report on Form 10- QSB filed on May 23, 2005 and incorporated by reference herein.
10.33	Employment Agreement dated October 1, 2003 by and between the Registrant and Irina Klimanskaya*	Previously filed as Exhibit 10.44 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.34	Settlement Agreement dated January 28, 2005 by and between the Registrant and Gunnar Engstrom*	Previously filed as Exhibit 10.53 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23,

		2005 and incorporated by reference herein.
10.35	Confidentiality and Nondisclosure Agreement dated February 3, 1999 by and between the Registrant and Robert Lanza, M.D.*	Previously filed as Exhibit 10.54 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.36	Master Laboratory Services Agreement dated January 4, 2001 by and between White Eagle Laboratories, Inc. and the Registrant	Previously filed as Exhibit 10.59 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.37	Master Study Agreement dated December 4, 2000 by and between Biomedical Research Models, Inc. and the Registrant	Previously filed as Exhibit 10.60 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.38	Agreement Relating to the Transfer of Biological Materials dated February 3, 2000 by and between Wake Forest University and the Registrant	Previously filed as Exhibit 10.61 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.39	Materials Transfer Agreement dated February 16, 2000 by and among the Registrant, B.C. Cancer Agency and Dr. Peter Lansdorp	Previously filed as Exhibit 10.62 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.40	Materials Transfer Agreement dated January 19, 2000 by and among the Registrant, IPK and Anna Wobus	Previously filed as Exhibit 10.63 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.41	Materials Transfer Agreement dated February 23, 2000 by and among the Registrant, Philip Damiani and Carlos T. Moraes	Previously filed as Exhibit 10.64 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.42	Material Transfer Agreement dated January 6, 1997 by and among the Registrant, University of Massachusetts, University of Colorado and Curtis R. Freed	Previously filed as Exhibit 10.65 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.43	Material Transfer Agreement dated March 20, 2000 by and among the Registrant, Charlotte Farin and Peter Farin	Previously filed as Exhibit 10.66 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.

10.44	Sponsored Research Agreement dated May 15, 2000 by and between Carl H. Lindner, Jr. Family Center for Research of Endangered Wildlife (CREW) and the Registrant	Previously filed as Exhibit 10.67 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.45	Sponsored Research Agreement dated August 9, 2000 by and between Cornell University and the Registrant	Previously filed as Exhibit 10.68 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.46	Sponsored Research Agreement dated December 1, 1999 by and between the Registrant and the University of Massachusetts Amherst	Previously filed as Exhibit 10.69 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.47	Amendment No. 1 to Agreement dated December 1, 1999 by and between the Registrant and the University of Massachusetts Amherst	Previously filed as Exhibit 10.69.1 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.48	Sponsored Research Agreement dated August 1, 1999 by and between the Registrant and UMass (D. Good)	Previously filed as Exhibit 10.70 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.49	Withdrawal, Termination, Assignment and Assumption Agreement dated March 14, 2001 by and among the Registrant, BioTransplant, Inc., Immerge BioTherapeutics, Inc. and Infigen, Inc.	Previously filed as Exhibit 10.72 to the Registrant's Quarterly Report on Form 10-QSB filed on May 23, 2005 and incorporated by reference herein.
10.50	Research Collaboration Agreement dated May 23, 2005 by and between the Registrant and The Burnham Institute	Previously filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-QSB filed on August 15, 2005 and incorporated by reference herein.
10.51		

	Securities Purchase Agreement dated September 15, 2005 by and among Advanced Cell Technology, Inc., a Nevada corporation (“ACT”) and the purchasers identified on the signature pages thereto	Previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on September 19, 2005 and incorporated by reference herein.
10.52	Registration Rights Agreement dated September 15, 2005 by and among ACT and the purchasers identified on the signature pages thereto	Previously filed as Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on September 19, 2005 and incorporated by reference herein.
10.53	Form of Common Stock Purchase Warrant	Previously filed as Exhibit 10.3 to the Registrant's Current Report on Form 8-K filed on September 19, 2005 and incorporated by reference herein.
10.54	Form of Amortizing Convertible Debenture	Previously filed as Exhibit 10.4 to the Registrant's Current Report on Form 8-K filed on September 19, 2005 incorporated by reference herein.
10.55	Form of Lock-up Agreement	Previously filed as Exhibit 10.5 to the Registrant's Current Report on Form 8-K filed on September 19, 2005 and incorporated by reference herein.
10.56	Settlement Agreement dated September 14, 2005 by and among Gary D. Aronson, individually and as Trustee of the Gary D. Aronson IRA, John Gorton, Trustee of John S. Gorton Separate Property Trust Dated 3/3/93, A.C.T. Group, Inc., Advanced Cell, Inc., Michael D. West, William M. Caldwell, IV, ACT, Anthem Venture Partners and Greg Bonfiglio	Previously filed as Exhibit 10.6 to the Registrant's Current Report on Form 8-K filed on September 19, 2005 and incorporated by reference herein.
10.57	Form of Convertible Promissory Note (Unsecured)	Previously filed as Exhibit 10.7 to the Registrant's Current Report on Form 8- K filed on September 19, 2005 and incorporated by reference herein.
10.58	Form of Warrant to Purchase Securities	Previously filed as Exhibit 10.8 to the Registrant's Current Report on Form 8-K filed on September 19,

		2005 and incorporated by reference herein.
10.59	Agreement dated September 15, 2005 by and among ACT, Advanced Cell, Inc. and A.C.T. Group, Inc.	Previously filed as Exhibit 10.9 to the Registrant's Current Report on Form 8-K filed on September 19, 2005 and incorporated by reference herein.
10.60	Agreement dated February 9, 2006 by and between Capital Financial Media, LLC and the Registrant	Previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on February 10, 2006 and incorporated by reference herein.

10.61	Sublease Agreement dated November 29, 2005 by and between Avigen, Inc. and the Registrant	Previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on February 7, 2006 and incorporated by reference herein.
10.62	Non-Exclusive License Agreement between dated May 9, 2006 by and among Kirin Beer Kabushiki Kaisha, Aurox, LLC, Hematech, LLC, and Kirin SD, Inc., and the Registrant	Previously filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-QSB filed on August 11, 2006 and incorporated by reference herein.
10.63	Exclusive License Agreement dated May 9, 2006 by and among Kirin Beer Kabushiki Kaisha, Aurox, LLC, Hematech, LLC, and Kirin SD, Inc., and the Registrant	Previously filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-QSB filed on August 11, 2006 and incorporated by reference herein.
10.64	Purchase Agreement dated May 9, 2006 by and between Kirin SD, Inc. and the Registrant	Previously filed as Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-QSB filed on August 11, 2006 and incorporated by reference herein.
10.65	Securities Purchase Agreement dated August 30, 2006 by and among the Registrant and the purchasers identified on the signature pages thereto	Previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on September 8, 2006 and incorporated by reference herein.
10.66	Registration Rights Agreement dated September 15, 2005 by and among the Registrant and the purchasers identified on the signature pages thereto	Previously filed as Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on September 8, 2006 and incorporated by reference herein.
10.67	Form of Common Stock Purchase Warrant	Previously filed as Exhibit 10.3 to the Registrant's Current Report on Form 8-K filed on September 8, 2006 and incorporated by reference herein.
10.68	Form of Amortizing Convertible Debenture	Previously filed as Exhibit 10.4 to the Registrant's Current Report on Form 8-K filed on September 8, 2006 and incorporated by reference herein.
10.69	Form of Lock-up Agreement	

		Previously filed as Exhibit 10.5 to the Registrant's Current Report on Form 8-K filed on September 8, 2006 incorporated by reference herein.
10.70	Amendment No. 1 dated January 11, 2007 to the Securities Purchase Agreement dated August 30, 2006, the Amortizing Convertible Debenture dated September 6, 2006, and the Registration Rights Agreement dated August 30, 2006	Previously filed as Exhibit 10.96 to the Registrant's Registration Statement on Form SB-2 filed on January 26, 2007 and incorporated by reference herein.
10.71	Amendment No. 1 dated January 11, 2007 to the Securities Purchase Agreement, the Amortizing Convertible Debenture, and the Registration Rights Agreement, each dated August 30, 2006	Previously filed as Exhibit 10.97 to the Registrant's Registration Statement on Form SB-2 filed on January 26, 2007 and incorporated by reference herein.
10.72	Patent Assignment Agreement dated February 5, 2007 by and between the Registrant and Infigen, Inc.	Previously filed as Exhibit 10.98 to the Registrant's Post-Effective Amendment No. 3 to its Registration Statement on Form SB-2 filed on March 28, 2007 and incorporated by reference herein.
10.73	Research Services Agreementdated February 5, 2007 by and between Advanced Cell Technology, Inc the Registrant and Oregon Health & Science University	Previously filed as Exhibit 10.100 to the Registrant's Post-Effective Amendment No. 3 to its Registration Statement on Form SB-2 filed on March 28, 2007 and incorporated by reference herein.
10.74	Agreement and Plan of Merger dated July 31, 2007 by and among the Registrant, ACT Acquisition Sub, Inc., Mytogen, Inc. and certain shareholders of Mytogen, Inc.	Previously filed as exhibit 10.101 to the Amendment No. 1 to the Registrant’s 10-KSB for the year ended December 31, 2007 filed with the SEC on June 30, 2008 and incorporated by reference herein.
10.75	Escrow Agreement dated September 20, 2007 by and among the Registrant and certain former shareholders of Mytogen, Inc.	Previously filed as Exhibit 10.102 to the Amendment No. 1 to the Registrant’s 10-KSB for the year ended December 31, 2007 filed with the SEC on June 30, 2008 and incorporated by reference herein.
10.76	Securities Purchase Agreement dated August 31, 2007 by and among the Registrant and the purchasers identified on the signature pages thereto	Previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on September 7, 2007 and incorporated by reference herein.

10.77	Registration Rights Agreement dated August 31, 2007 by and among the Registrant and the purchasers identified on the signature pages thereto	Previously filed as Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on September 7, 2007 and incorporated by reference herein.

10.78	Form of Common Stock Purchase Warrant	Previously filed as Exhibit 10.3 to the Registrant's Current Report on Form 8-K filed on September 7, and incorporated by reference herein.
10.79	Form of Amortizing Convertible Debenture	Previously filed as Exhibit 10.4 to the Registrant's Current Report on Form 8-K filed on September 7, 2007 and incorporated by reference herein.
10.80	Form of Security Agreement dated August 31, 2007	Previously filed as Exhibit 10.5 to the Registrant's Current Report on Form 8-K filed on September 7, 2007 and incorporated by reference herein.
10.81	Form of Subsidiary Guaranty dated August 31, 2007	Previously filed as Exhibit 10.6 to the Registrant's Current Report on Form 8-K filed on September 7, 2007 and incorporated by reference herein.
10.82	Form of Lock-up Agreement	Previously filed as Exhibit 10.7 to the Registrant's Current Report on Form 8-K filed on September 7, 2007 and incorporated by reference herein.
10.83	Amended and Restated Consulting Agreement dated September 19, 2007 by and between the Registrant, through its wholly owned subsidiary Mytogen, Inc., and Dib, LLC	Previously filed as Exhibit 10.110 to the Registrant's Registration Statement on Form SB-2 filed on October 1, 2007 and incorporated by reference herein.
10.84	Nomination Agreement dated September 20, 2007 by and between the Registrant and Anthem Ventures Fund, LP	Previously filed as Exhibit 10.112 to the Registrant's Registration Statement on Form SB-2 filed on October 1, 2007 and incorporated by reference herein.
10.85	Securities Purchase Agreement dated March 31, 2008 by and among the Registrant and the investors party thereto	Previously filed as Exhibit 10.1 to the Registrant’s Quarterly Report on Form 10-Q filed on July 15, 2008 and incorporated herein by reference.
10.86	Security Agreement dated March 31, 2008 by and among the Registrant and the investors party thereto	Previously filed as Exhibit 10.2 to the Registrant’s Quarterly Report on Form 10-Q filed on July 15, 2008 and incorporated herein by reference.
10.87	Form of Common Stock Purchase Warrant	Previously filed as Exhibit 10.3 to the Registrant’s Quarterly Report on Form 10-Q filed on July 15,

		2008 and incorporated herein by reference.
10.88	Form of Amortizing Convertible Debenture	Previously filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q filed on July 15, 2008 and incorporated herein by reference.
10.89	Subsidiary Guarantee dated March 31, 2008 made by the signatories thereto in favor of the investors party to the Securities Purchase Agreemen dated March 31, 2008	Previously filed as Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q filed on July 15, 2008 and incorporated herein by reference.
10.90	Convertible Note dated March 17, 2008 issued by the Registrant to PDPI LLC	Previously filed as Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q filed on July 15, 2008 and incorporated herein by reference.
10.91	Bridge Note dated March 17, 2008 issued by the Registrant to The Shapiro Family Trust Dated September 25, 1989	Previously filed as Exhibit 10.7 to the Registrant's Quarterly Report on Form 10-Q filed on July 15, 2008 and incorporated herein by reference.
10.92	License Agreement dated February 25, 2008 by and between the Registrant and Pharming Technologies B.V	Previously filed as Exhibit 10.8 to the Registrant's Quarterly Report on Form 10-Q filed on July 15, 2008 and incorporated herein by reference.
10.93	Convertible Promissory Note A dated February 15, 2008 issued by the Registrant to JMJ Financial	Previously filed as Exhibit 10.9 to the Registrant's Quarterly Report on Form 10-Q filed on July 15, 2008 and incorporated herein by reference.
10.94	Convertible Promissory Note B dated February 15, 2008 issued by the Registrant to JMJ Financial, and Amendment to Convertible Promissory Note B dated March 17, 2008	Previously filed as Exhibit 10.10 to the Registrant's Quarterly Report on Form 10-Q filed on July 15, 2008 and incorporated herein by reference.
10.95	Secured & Collateralized Promissory Note dated February 15, 2008 issued by JMJ Financial to the Registrant	Previously filed as Exhibit 10.11 to the Registrant's Quarterly Report on Form 10-Q filed on July 15, 2008 and incorporated herein by reference.
10.96	Collateral & Security Agreement dated February 15, 2008 by and between the Registrant and JMJ Financial	Previously filed as Exhibit 10.12 to the Registrant's Quarterly Report on Form 10-Q filed on July 15, 2008 and incorporated herein by reference.

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10.97	Consent, Amendment and Exchange Agreement dated July 29, 2009 by and among the Registrant and the holders named on the signature pages thereto	Previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on August 4, 2009 and incorporated herein by reference.
10.98	Standstill and Forbearance Agreement dated July 29, 2009 by and among the Registrant and the holders named on the signature pages thereto	Previously filed as Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on August 4, 2009 and incorporated herein by reference.
10.99	Preferred Stock Purchase Agreement dated November 2, 2009 between the Registrant, and Optimus Capital Partners, LLC, dba Optimus Life Sciences Capital Partners, LLC	Previously filed as Exhibit 10.127 to the Registrant's Registration Statement on Form S-1 filed on November 19, 2009 and incorporated herein by reference.
10.100	Warrant to Purchase Common Stock dated November 2, 2009 issued by the Registrant to Optimus CG II, Ltd.	Previously filed as Exhibit 10.128 to the Registrant's Registration Statement on Form S-1 filed on November 19, 2009 and incorporated herein by reference.
10.101	Subscription Agreement dated November 12, 2009 by and among the Registrant and the holders named on the signature pages thereto	Previously filed as Exhibit 10.129 to the Registrant's Registration Statement on Form S-1 filed on November 19, 2009 and incorporated herein by reference.
10.102	Form of Class A Common Stock Purchase Warrant	Previously filed as Exhibit 10.130 to the Registrant's Registration Statement on Form S-1 filed on November 19, 2009 and incorporated herein by reference.
10.103	Form of Class B Common Stock Purchase Warrant	Previously filed as Exhibit 10.131 to the Registrant's Registration Statement on Form S-1 filed on November 19, 2009 and incorporated herein by reference.
10.104	Form of Additional Investment Right	Previously filed as Exhibit 10.132 to the Registrant's Registration Statement on Form S-1 filed on November 19, 2009 and incorporated herein by reference.
10.105	Employment Agreement dated October 1, 2009 by and between the Registrant and Robert P. Lanza*	Previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on November

		17, 2009 and incorporated herein by reference.
10.106	Form of Convertible Promissory Note	Previously filed as Exhibit 10.134 to the Registrant's Registration Statement on Form S-1 filed on November 19, 2009 and incorporated herein by reference.
10.107	Promissory Note dated January 19, 2010 issued by the Registrant to JMJ Financial	Previously filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed on May 7, 2010 and incorporated herein by reference.
10.108	Promissory Note dated March 30, 2010 issued by the Registrant to JMJ Financial	Previously filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed on May 7, 2010 and incorporated herein by reference.
10.109	Promissory Note dated March 30, 2010 issued to JMJ Financial	Previously filed as Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q filed on May 7, 2010 and incorporated herein by reference.
10.110	Promissory Note dated March 30, 2010 issued to JMJ Financial	Previously filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q filed on May 7, 2010 and incorporated herein by reference.
10.111	Letter Agreement dated March 30, 2010 by and between the Registrant and JMJ Financial	Previously filed as Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q filed on May 7, 2010 and incorporated herein by reference.
10.112	Registration Rights Agreement dated March 30, 2010 by and between the Registrant and JMJ Financial	Previously filed as Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q filed on May 7, 2010 and incorporated herein by reference.
10.113	Settlement Agreement and Mutual Release dated September 30, 2010 by and between the Registrant and Bristol Investment Fund, Ltd and Bristol Capital, LLC	Previously filed as Exhibit 99.1 to the Registrant's Quarterly Report on Form 10-Q filed on November 9, 2010 and incorporated herein by reference.
10.114	Form of Warrant to Purchase Common Stock to be issued to Socius CG II, Ltd.	Previously filed as Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed on January 3, 2011 and incorporated herein by reference.
10.115		

Form of Warrant to Purchase Common Stock to be issued to Socius CG II, Ltd.	Previously filed as Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on January 3, 2011 and incorporated herein by reference.

10.116	Securities Purchase Agreement dated December 30, 2010 by and between the Registrant and Socius CG II Ltd.	Previously filed as Exhibit 99.1 to the Registrant's Current Report on Form 8-K filed on January 3, 2011 and incorporated herein by reference.
10.117	Letter Agreement dated December 30, 2010 by and among the Registrant and Optimus CG II, Ltd.	Previously filed as Exhibit 99.2 to the Registrant's Current Report on Form 8-K filed on January 3, 2011 and incorporated herein by reference.
10.118	Employment Agreement dated December 14, 2010 by and between the Registrant and Gary Rabin*	Filed as Exhibit 10.147 to the Registrant's Annual Report on 10-K filed March 17, 2011 and incorporated herein by reference.
10.119	Settlement Agreement and Mutual Release dated February 9, 2011 by and between the Registrant and Transition Holdings, Ltd.	Filed as Exhibit 10.148 to the Registrant's Annual Report on 10-K filed March 17, 2011 and incorporated herein by reference.
10.120	Settlement Agreement and Mutual Release dated February 11, 2011 by and between the Registrant and Gemini Master Fund, Ltd.	Filed as Exhibit 10.149 to the Registrant's Annual Report on 10-K filed March 17, 2011 and incorporated herein by reference.
10.121	Settlement Agreement and Mutual Release dated August 9, 2011 by and among the Registrant, Midsummer Investment, Ltd. and Midsummer Small Cap Master, Ltd.	Previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on August 17, 2011 and incorporated herein by reference.
10.122	Amended and Restated Employment Agreement dated July 1, 2011 by and between the Registrant and Robert P. Lanza*	Previously filed as Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on August 17, 2011 and incorporated herein by reference.
10.123	Amended and Restated Employment Agreement dated July 1, 2011 by and between the Registrant and Gary H. Rabin*	Previously filed as Exhibit 10.3 to the Registrant's Current Report on Form 8-K filed on August 17, 2011 and incorporated herein by reference.
10.124	Settlement Agreement and Mutual Release Form used between the Registrant and several counter parties	Previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on December 12, 2011 and incorporated herein by reference.
10.125	Purchase Agreement dated September 19, 2012 by and between the Registrant and Lincoln Park Capital Fund, LLC	Previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on September 20, 2012 and incorporated herein by reference.

10.126	Registration Rights Agreement dated September 19, 2012 by and between the Registrant and Lincoln Park Capital Fund, LLC	Previously filed as Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on September 20, 2012 and incorporated herein by reference.
10.127	Settlement Agreement and Mutual Release dated December 31, 2012 by and between the Registrant and CAMOFI Master LDC, and CAMHZN Master LDC	Previously filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on January 17, 2013 and incorporated herein by reference.
10.128	Form of Amortizing Senior Secured Convertible Debenture Issued to CAMOFI Master LDC	Previously filed as Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on January 17, 2013 and incorporated herein by reference.
10.129	Form of Amortizing Senior Secured Convertible Debenture Issued to CAMHZN Master LDC	Previously filed as Exhibit 10.3 to the Registrant's Current Report on Form 8-K filed on January 17, 2013 and incorporated herein by reference.
10.130	Form of Registration Rights Agreement between the Registrant and each of the holders signatory thereto	Previously filed as Exhibit 10.4 to the Registrant's Current Report on Form 8-K filed on January 17, 2013 and incorporated herein by reference.

10.131	Office Lease Agreement dated January 11, 2013 by and between the Registrant and Wendy Jolles and Linda Olstein, Trustees of The Janelon Trust under Declaration of Trust dated January 28, 1975 and recorded with the Suffolk County Registry of Deeds in Book 8766, Page 558, as amended by instrument dated January 7, 1988 and recorded in Book 14432, Page 267	Previously filed as Exhibit 10.5 to the Registrant's Current Report on Form 8-K filed on January 17, 2013 and incorporated herein by reference.
21.1	Subsidiaries of the Registrant	Filed herewith.
23.1	Consent of Independent Registered Public Accounting Firm	Filed herewith.
31.1	Certification of the Principal Executive Officer and Principal Financial Officer Pursuant to Rule 13a-14 of the Securities Exchange Act of 1934	Filed herewith.
32.1	Certification of Principal Executive Officer and Principal Financial Officer Pursuant to Section 1350	Filed herewith.

* Management contract or compensatory plan or arrangement

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.

ADVANCED CELL TECHNOLOGY, INC.

Dated: March 7, 2013 By: /s/ Gary Rabin
Gary Rabin
Chief Executive Officer and Chairman
(Principal Executive Officer, Principal Financial Officer and Principal Accounting Officer)

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

/s/ Gary Rabin Gary Rabin Chief Executive Officer and Chairman of the Board of Directors (Principal Executive Officer, Principal Financial Officer and Principal Accounting Officer)	March 7, 2013
/s/ Robert Langer Robert Langer Director	March 7, 2013
/s/ Alan Shapiro Alan Shapiro Director	March 7, 2013
/s/ Gregory D. Perry Gregory D. Perry Director	March 7, 2013
/s/ Zohar Loshitzer Zohar Loshitzer Director	March 7, 2013
/s/ Michael Heffernan Michael Heffernan Director	March 7, 2013

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