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

FORM 10-K

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

For the fiscal year ended December 31, 2012

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

For the transition period from _____ to _____

Commission File No. 0-51891

INTERNATIONAL STEM CELL CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**20-4494098**
(State of other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**
5950 Priestly Drive Carlsbad, CA	**92008**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number: (760) 940-6383

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

Title of each class	**Name of each exchange on which registered**
None	**None**

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 ☒

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

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulations 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 Park 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.

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

The aggregate market value of voting and non-voting common equity held by non-affiliates of the registrant was approximately $29,036,000 based upon the closing price of the common stock on June 30, 2012 on the OTC QB Bulletin Board. Shares of common stock held by each officer, director and holder of five percent or more of the outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of March 15, 2013 there were 111,713,815 shares of the registrant's common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Information from the registrant's definitive Proxy Statement for its Annual Meeting of Stockholders to be held in 2013 is incorporated by reference into Part III of this Form 10-K.

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Explanatory Note

The registrant previously reported as an accelerated filer, but has become a smaller reporting company under applicable SEC rules and regulations. Accordingly, the registrant is using scaled disclosure applicable to a smaller reporting company for this Annual Report on Form 10-K.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements. For example, statements regarding our financial position, business strategy and other plans and objectives for future operations, and assumptions and predictions about potential markets, future product demand, expenses and sales are all forward-looking statements. These statements may be found in the items of this Annual Report entitled "Description of Business" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," as well as in this Annual Report generally. These statements are generally accompanied by words such as "intend," "anticipate," "believe," "estimate," "potential(ly)," "continue," "forecast," "predict," "plan," "may," "will," "could," "would," "should," "expect," or the negative of such terms or other comparable terminology.

We have based these forward-looking statements on our current expectations and projections about future events. We believe that the assumptions and expectations reflected in such forward-looking statements are reasonable, based on information available to us on the date hereof, but we cannot assure you that these assumptions and expectations will prove to have been correct or that we will take any action that we may presently be planning. However, these forward-looking statements are inherently subject to known and unknown risks and uncertainties. Actual results or experience may differ materially from those expected or anticipated in the forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, research and product development uncertainties, regulatory policies and approval requirements, competition from other similar businesses, market and general economic factors, the availability of resources and the other risks discussed in Item 1A of this Annual Report. This discussion should be read in conjunction with the consolidated financial statements and notes thereto included in this Annual Report.

We have identified some of the important factors that could cause future events to differ from our current expectations and they are described in this Annual Report in the section entitled "Risk Factors" which you should review carefully. Please consider our forward-looking statements in light of those risks as you read this Annual Report. If one or more of these or other risks or uncertainties materialize, or if our underlying assumptions prove to be incorrect, actual results may vary materially from what we project. We do not undertake, and specifically decline any obligation, to update any forward-looking statements or to publicly announce the results of any revisions to any statements to reflect new information or future events or developments.

PART I

ITEM 1. BUSINESS

Business Overview

International Stem Cell Corporation (sometimes referred to herein as "ISCO", the "Company", "we", "us", or "our") is a developmental stage biotechnology company focused on therapeutic and biomedical product development with multiple long-term therapeutic opportunities and two revenue-generating businesses offering potential for increased future revenue.

The Company is a development stage entity with no revenue generated from its principal operations in therapeutic research and development efforts. To date, the Company has generated limited and unpredictable incidental revenues to support its core therapeutic research and development efforts.

Our products are based on multi-decade experience with human cell culture and a proprietary type of pluripotent stem cells, "human parthenogenetic stem cells" ("hpSCs"). Our hpSCs are comparable to human embryonic stem cells ("hESCs") in that they have the potential to be differentiated into many different cells in the human body. However, the derivation of hpSCs does not require the use of fertilized eggs or the destruction of viable human embryos and they offer the potential for creation of immune-matched cells and tissues that are less likely to be rejected following transplantation into people across various ethnic groups. ISCO scientists have created the first parthenogenetic, homozygous stem cell line that can be a source of therapeutic cells for hundreds of millions of individuals of differing genders, ages and racial background with minimal immune rejection after transplantation. ISCO's collection of hpSCs, known as UniStemCell™, currently consists of fifteen stem cell lines, three of which were created under cGMP conditions. We have facilities and manufacturing protocols that comply with the requirements of the US Food and Drug Administration ("FDA") and other regulatory authorities.

Market Opportunity and Growth Strategy

Therapeutic Market – Clinical Applications of hpSCs for Disease Treatment

With respect to therapeutic research and product candidates, we focus on applications where cell and tissue therapy is already proven but where there is an insufficient supply of safe and functional cells or tissue. We believe that the most promising potential clinical applications of our technology are: 1) Parkinson's disease; 2) metabolic/liver diseases; and 3) corneal blindness.

Parkinson's disease ("PD") is the second most common neurodegenerative disease and, according to the Parkinson Disease Foundation, there are more than one million sufferers in the United States and more than $2 billion is spent on medication. Currently there is no cure for PD and the improvements in symptoms provided by PD drugs often diminish with time. Using our proprietary technologies and know-how, we are creating neuronal cells from hpSCs as a potential treatment of PD and other central nervous system disorders in order to address this significant market opportunity.

Liver disease affects one in ten persons according to the American Liver Foundation, and is one of the top ten leading causes of death in the United States. There are more than 100 individual diseases of the liver and, for people with liver failure, the only effective treatment is full or partial organ transplantation. However, the demand for liver organs far exceeds the number available. According to the American Liver Foundation, over 16,000 individuals in the United States are waiting for a transplant. Using our proprietary technologies and know-how, we are creating liver cells from hpSCs that may be used to treat a variety of hepatic and metabolic liver diseases to address this significant market opportunity. Importantly, liver cell transplantation has already been used in early stage clinical trials to treat patients with liver failure and has proven especially useful as a "bridge" to keep patients alive until they can receive a whole liver transplant.

According to the World Health Organization, corneal blindness currently affects between seven and eight million people worldwide with a significant number of those people in India. There is a tremendous shortage of cells and corneal tissue for transplantation necessary to effectively treat sufferers, particularly in South Asia where cultural and other reasons inhibit the donation of corneal tissue. Using our proprietary technologies and know-how, we are creating corneal-like structures from hpSCs. These clear hollow spheres are composed of tissue with a three-dimensional layered structure similar to what is found in normal corneal tissue. Portions or all of these tissue layers may be suitable for cornea transplantation in humans. In addition, corneal cells can be used for coating contact lenses to accelerate corneal healing. We are currently collaborating with a leading eye hospital in India for pre-clinical and clinical development of a cornea product for the Indian market.

Cosmeceutical Market – Skin Care Products

Anti-aging represents a significant portion of the prestige facial skincare market and seems to be resilient to a recessionary economy. In key markets such as the U.S. and Asia, we believe that the prestige facial skincare market is positioned for significant growth.

In order to make claims that products can actually diminish the signs of aging, marketers are constantly looking for new combinations of specialty ingredients. The category of skincare products based on biotechnology such as human stem cells is just beginning to be developed, and therefore we believe that it has significant growth potential. Our goal is to leverage our leadership in human stem cell technology to develop and commercialize advanced anti-aging skincare products for the consumer and professional channels.

Our wholly-owned subsidiary Lifeline Skin Care, Inc. (“LSC”) develops, manufactures and markets cosmetic skin care products to address this significant market opportunity. Lifeline Skin Care has three proprietary products, Defensive Day Serum, Recovery Night Serum and an Eye Firming Complex, all of which include our patented stem cell extract.

LSC’s products are sold nationally and internationally through a branded website; through professional channels (including dermatologists; plastic surgeons; medical, day and resort spas,) and distributors. Domestically, we plan to increase distribution of our products by increasing brand awareness and resonance through advertising, sales promotion and public relations. Internationally, we are increasing distribution and sales through agreements with specialty distributors in both Latin America and Asia.

Biomedical Market – Primary Human Cell Research Products

The global market for human cell systems for use in basic research is extremely large, with continuing anticipated growth. We believe that the following are the main drivers in the research market:

- The need for experimental human cells which are more predictive of human biology than are non-human cells or genetically-modified cell lines or living non-human animals.
- The emerging field of stem-cell-based regenerative medicine and the increase in associated grant money to study stem cells is driving the market not only for stem cell products but also for cell culture products in general.
- The desire to lower the cost of drug development in the pharmaceutical industry. We believe that human cell systems may provide a platform for screening toxic drugs early in the development process, thus avoiding late stage failures in clinical trials and reducing costs.
- The need to eliminate animal products in research reagents that may contaminate future therapeutic products.
- The need for experimental control. Serum-free defined media provides the benefit of experimental control because there are fewer undefined components.
- The need for consistency in experiments that can be given by quality controlled products.
- The need to eliminate in-house formulation of media, obtain human tissue or perform cell isolation.
- The need to reduce animal testing in the consumer products industry.

Our wholly-owned subsidiary Lifeline Cell Technology, LLC (“LCT”) develops, manufactures and commercializes over 130 human cell culture products, including frozen human “primary” cells and the reagents (called “media”) needed to grow, maintain and differentiate the cells, in order to address this significant market opportunity. LCT’s scientists have used a technology called basal medium optimization to systematically produce optimized products designed to culture specific human cell types and to elicit specific cellular behaviors. These techniques also produce products that do not contain non-human animal proteins, a feature desirable to the research and therapeutic markets.

Each LCT cell product is quality tested for the expression of specific markers (to assure the cells are the correct type), proliferation rate, viability, morphology and absence of pathogens. Each cell system also contains associated donor information and all informed consent requirements are strictly followed. LCT’s research products are marketed and sold by its internal sales force, OEM partners and LCT brand distributors in Europe and Asia.

While we have continued to expand our sales and marketing efforts in order to increase revenue, to date we have generated limited revenue to support our core therapeutic research and development efforts.

Underpinning our research into the therapeutic properties of hpSC, we plan to expand its collection of parthenogenetic stem cell lines by creating and banking new clinical-grade hpSC lines at its Oceanside, California facility. We intend to create these new lines according to good tissue practices (“GTP”) and current good manufacturing practices (“cGMP”) and use them as sources for our own internal development programs and to generate revenue through licensing opportunities. We are actively working with a number of *in vitro* fertility (“IVF”) clinics in the southern California region enrolling individuals who are willing to donate oocytes for research purposes in order to create new hpSC lines.

According to the National Institutes of Health (“NIH”), stem cell research involves knowledge advancement for how tissues and organisms develop from a single cell and how healthy cells derived from a single precursor cell may replace damaged cells in adult organisms. Our scientists also investigate the possibility of cell-based therapies to treat disease, an area referred to as “regenerative medicine”. Today, donated organs and tissues are often used to replace ailing or destroyed tissue but the need for transplantable tissues and organs far exceeds the available supply. In regenerative medicine, stem cells are directed to differentiate into specific cell types as potentially renewable sources of replacement cells and tissues to treat a wide range of diseases.

Human pluripotent stem cells have the potential to become any one of the 200 or so tissue types in the human body. A number of technical, ethical and legal hurdles need to be overcome before cells and tissues derived from pluripotent stem cells may be used for cell, tissue or organ repair. To realize the promise of cell-based therapies for disease treatment, a number of aspects need to be addressed, including:

- Extensive stem cell proliferation to sustain sufficient quantities of stem cells.
- Differentiation into the desired cell type(s) for therapeutic use.
- Survival of the graft in the human recipient.
- Structural integration into the surrounding tissue after implantation.
- Appropriate cell function.
- Assurance that the implanted cells or tissues do not harm the recipient.
- Reduction or elimination of immune rejection, thus ensuring that the implanted tissue will survive and remain functional in the recipient.
- Feasibility of manufacture and delivery of sufficient numbers of clinical grade (regulatory-approved) cells and tissues to the point of care.
- Demonstrated cost-efficient medical care relative to alternatives, including small molecule and protein therapeutics, surgery and other treatment paradigms.

We address these and other aspects in each of our therapeutic development programs and believe that our technology fundamentally may offer substantial clinical-commercial opportunity in the field of regenerative medicine. To this end we engage internationally proven immunogeneticists, geneticists, ethicists, regulatory experts, patent counsel and other experts to advance hpSC technology, the collection of pluripotent stem cells, and to advance our therapeutic applications.

During 2007 and 2008, an ISCO scientist published two seminal works in the peer reviewed journal “Cloning and Stem Cells” that announced and described the first intentional creation of human parthenogenetic stem cells. These papers form the basis of ISCO’s technology and its intellectual property. The importance of this work was illustrated by Professor Sir Ian Wilmut, Director of the MRC Centre for Regenerative Medicine at the University of Edinburgh and best known as the leader of the research group that in 1996 first cloned a sheep (“Dolly”) from an adult somatic cell who said “This study has used a novel approach to producing cells that may one day be used to treat large numbers of patients. While there is a great deal of discussion about the possibility of producing stem cells for each patient this approach to therapy is unrealistic because of the enormous costs involved. Rather it is likely that treatment of large numbers of patients by cell therapy will only be possible if methods are found using any one cell line to treat very large numbers of patients. This very exciting paper represents a significant step forward towards the use of such cells in cell therapy.” Sir Ian noted, “Immune reaction is one of the most serious problems facing the development of stem cell therapy, and cell lines of this type may enable us to treat a large number of patients without immune rejection, offering an enormous practical advantage. Further research is required to confirm that the cells produced in this way are able to replace cells that have been lost in human degenerative disease.”

Over the last few years we have further deepened our scientific understanding and technical capabilities with respect to the manipulation of our parthenogenetic stem cells and how they can be differentiated into distinct lineages such as retinal pigment epithelial cells, hepatocyte-like cells and neural-progenitors as well as larger scale structures such as cornea-like tissue.

History

ISCO was incorporated in Delaware on June 7, 2005 under the name BTHC III, Inc. to effect the reincorporation of BTHC III, LLC, a Texas limited liability company, mandated by a plan of reorganization. On December 28, 2006, pursuant to a Share Exchange Agreement, BTHC III, Inc. issued 33,156,502 shares of common stock, representing approximately 93.7% of the common stock outstanding immediately after the transaction, to the shareholders of International Stem Cell Corporation, a California corporation (“ISC California”), in exchange for all outstanding stock of ISC California. As a result of this transaction, ISC California became wholly-owned by ISCO. This transaction was accounted for as a reverse merger for accounting purposes. Consequently, the assets and liabilities and the historical operations that are reflected in our financial statements are those of ISC California and its subsidiary. On January 29, 2007, we changed our name to International Stem Cell Corporation.

ISC California was incorporated in California in June 2006 for the purpose of restructuring the business of Lifeline Cell Technology, LLC, (“LCT”) which was organized in California in August 2001. As a result of the restructuring, LCT became wholly-owned by ISC California. Lifeline Skin Care, Inc. was formed in the State of California on June 5, 2009 and is a wholly-owned subsidiary of ISCO California.

Our principal executive offices are located at 5950 Priestly Drive, Carlsbad, CA 92008, and our telephone number is (760) 940-6383. Our corporate website address is www.internationalstemcell.com, Lifeline Cell Technology’s website address is www.lifelinecelltech.com, and Lifeline Skin Care’s website address is www.lifelineskincare.com. Our common stock is quoted on the OTC QB and trades under the symbol “ISCO”.

Frequently Asked Questions

What are Stem Cells?

Cells are the basic living units that make up humans, animals, plants and other organisms. Stem cells have two important characteristics that distinguish them from other types of cells. First, they can renew themselves for long periods of time. Second, they are unspecialized and under certain conditions can be induced to become cells with special functions such as metabolically active cells of the liver or transparent and protective cells of the eye. Until recently, scientists have worked with two major kinds of stem cells, *embryonic stem cells* (hESCs) and *adult stem cells* that each has different properties and characteristics. ISCO has developed a third category of stem cells named *parthenogenetic stem cells* (the hpSCs mentioned above) that promise to have significant therapeutic advantages relative to these other types.

What are Pluripotent Stem Cells?

Pluripotent stem cells are able to be differentiated or developed into virtually any other cell made in an organism. Both embryonic and parthenogenetic stem cells are pluripotent. Some scientists are exploring manipulation of adult cells into a potentially pluripotent stage. This type of stem cells is called *induced pluripotent stem cells.*

What are Embryonic Stem Cells?

Embryonic stem cells are derived from embryos at an early stage of development, typically when they are in a structure of a small number of cells called the *blastocyst.* Embryonic stem cells are expanded in a laboratory cell culture process. Once cell lines are established, batches of them can be frozen and shipped to other laboratories for further culture and experimentation.

What are Adult Stem Cells?

An adult stem cell is an undifferentiated cell found among differentiated cells in a tissue or organ. An adult stem cell can renew itself (generally to a lesser degree than can embryonic or parthenogenetic stem cells) and differentiate to a limited number of specialized cell types. These cells can be isolated from different tissues such as the bone marrow, fat tissue, and umbilical cord blood.

Why are Embryonic Stem Cells Important?

Human embryonic stem cells are able to differentiate into virtually any other cell in the body and to reproduce themselves almost indefinitely. In theory, if stem cells can be grown and their development directed in culture, it would be possible to grow cells for the treatment of specific diseases.

An early potential application of human embryonic stem cell technology may be in drug screening and toxicology testing.

The study of human development may also benefit from embryonic stem cell research in that understanding the events that occur at the first stages of development has potential clinical significance for preventing or treating birth defects, infertility and pregnancy loss. The earliest stages of human development have been difficult or impossible to study. Human embryonic stem cells offer insights into developmental events that cannot be studied directly in humans or fully understood through the use of animal models.

What are Parthenogenetic Stem Cells and how are they different?

Parthenogenetic stem cells are pluripotent stem cells created from unfertilized human eggs through a “parthenogenesis” process. Parthenogenesis requires that an unfertilized human egg be “activated” by chemical, physical or other means. Activation results in a non-viable “parthenote” from which pluripotent parthenogenetic stem cell lines can be derived. The cell lines used by ISCO are human parthenogenetic stem cells. Currently International Stem Cell Corporation owns the largest published collection of human parthenogenetic stem cell lines. Our research is based on perfecting proprietary techniques for deriving stem cells through parthenogenesis that result in stem cell lines that have the same capacity to become all cells found in the human body, but do not require use or destruction of a viable human embryo. Furthermore, parthenogenetic stem cells can be produced in a simplified (“homozygous”) form that enables each line to be an immunological match for millions of people. We do not obtain stem cells from fetal tissue nor does our technology require the use of discarded frozen human embryos.

Why Not Use Stem Cells Derived from Adults?

There are several approaches now in human clinical trials that utilize adult stem cells. However, these cells have limited availability and limited ability to proliferate in culture as well as risk of genetic manipulation. Therefore, obtaining clinically significant amounts of adult stem cells may prove to be difficult.

Why is Stem Cell Research Controversial?

The sources of some types of stem cells cause social and religious controversy. For example, some scientists obtain stem cells from aborted fetal tissue, causing opposition from those opposed to abortion. Another controversial source of stem cells is residual human embryos (from fertilized human eggs) that remain after vitro fertilization procedures and are used to create embryonic stem cell lines.

Is Stem Cell Research Banned in the US?

Embryonic stem cell research, in general, is not banned in the US. Work by private organizations is not limited except by the restrictions applicable to all human research. In addition, Proposition 71 in California, which voters approved in November 2004, specifically allows state funds to be used for stem cell research.

Why Not Use the Currently "Approved" Embryonic Stem Cells Lines?

Most, if not all, human embryonic stem cell lines in research now have complex ("heterozygous") immune compositions that are likely to cause the differentiated cells to be rejected by most patients.

Why Not use Adult Cells Reprogrammed to become Pluripotent Cells?

Induced pluripotent cells ("iPSs") benefit from not being derived from human embryos but may face a number of other limitations such as uncertainty as to which genes are turned on and off, etc. Furthermore, like embryonic stem cells, iPSs have complex ("heterozygous") immune compositions that are likely to cause the differentiated cells to be rejected by most patients.

Ethical Issues

The use of embryonic stem cells derived from fertilized human eggs has created an ethical debate in the US and around the world. However, since no fertilized human eggs are used in creating our stem cells and no human embryo is being created, used or destroyed, we expect that our parthenogenetic stem cells will be more readily accepted in circumstances where there are ethical concerns with using traditional embryonic stem cells.

We also have licensed worldwide rights to use a technology known as Somatic Cell Nuclear Transfer ("SCNT") to create human stem cells. The President's Council on Bioethics, as reported in the publication "Reproduction and Responsibility—The Regulation of New Biotechnologies 2004", has agreed on a series of recommendations for the use of such technology. Countries such as the United Kingdom have made similar recommendations.

Our Technology

We have developed a proprietary process based on parthenogenesis for the creation of a new type of stem cell that has shown to exhibit the pluripotency and proliferative benefits of embryonic stem cells yet avoid the use or destruction of fertilized human eggs or embryos. Furthermore, since parthenogenetic stem cells can be created with immunogenetically identical ("homozygous") chromosome pairs, each line has potential to be an immune match for tens of millions of patients. If such cells were to be differentiated into functional mature cells they would, theoretically, be universally applicable across a wide range of medical conditions.

We also hold licenses to three other technologies to create human pluripotent stem cells: SCNT technology (as mentioned previously); a technology that may be useful to create induced pluripotent stem cells ("iPS"); and "single blastomere technology" which uses a single cell obtained from a fertilized blastocyst to create an embryonic stem cell line. Each of these technologies has unique cell therapy applications and provides us with a broad base of technologies from which we can operate in the future.

Our Facilities

We have built the capacity to manufacture human cells for use in pre-clinical and clinical trials and ultimately for therapeutic use through the completion of our cGMP manufacturing laboratories in Oceanside, California and Frederick, Maryland, many of which are currently cGMP ready. These laboratories are unique and designed specifically for the derivation of clinical-grade parthenogenetic stem cell lines for our stem cell bank and their differentiated derivatives for future clinical trials.

Our Products

Therapeutic Product Candidates

Using our proprietary technologies and know-how, we are exploring and creating a range of cell types that may be useful in therapeutic treatments such as:

- Liver cells ("hepatocytes") that may be used to treat a variety of congenital and acquired liver diseases. Using the same precursor cell that leads to liver cells, it is also possible to create islet cells for potential treatment of diabetes.
- Neuronal cells for treatment of Parkinson's disease and potentially other central nervous system disorders, such as traumatic brain injury, stroke and Alzheimer's disease.
- Three-dimensional eye structures to treat degenerative retinal diseases, corneal blindness, and to accelerate corneal healing.

Each of these product candidates will require extensive preclinical and clinical development and may require specific unforeseen licensing rights obtained at substantial cost before regulatory approval may be achieved and the products sold for therapeutic use.

Skin Care Products

ISCO's research scientists developed three skin care products, including Defensive Day Serum, Recovery Night Serum, and Firming Eye Complex, all using a patented extract derived from human parthenogenic stem cells and regulated as cosmetics. Defensive Serum contains sunscreen, along with unique stem cell-derived ingredients. The day serum not only protects the skin from the aging effects of harsh light, but it continues to nurture the skin's collagen and fibroblasts to give noticeably firmer, smoother, younger-looking skin. The Recovery Night Serum is a nighttime therapy that complements the Defensive Day Serum. The night serum nurtures the skin's collagen and elastin and contains ingredients to defend against damaging free radicals, to help build firmer, smoother, younger and healthier-looking skin. The Firming Eye Complex contains Vitamin C, hyaluronic acid, and matrixyl 3000 to replenish moisture and supply nutrients to the eye area, along with unique stem-cell derived ingredients that are designed to help firm and tighten the more fragile skin around the eyes, become less vulnerable to premature aging and stimulate collagen production.

Research Products

ISCO's LCT subsidiary develops, manufactures and commercializes over 130 human cell culture products. These products include frozen human "primary" cells and stem cells and the reagents (called "media") needed to grow, maintain and differentiate the cells. LCT's scientists have used a technology called basal medium optimization to systematically produce optimized products designed to culture specific human cell types and to elicit specific cellular behaviors. These techniques also produce products that do not contain non-human animal proteins, a feature desirable to research and therapeutic markets. LCT frequently adds more products to its line. These human cell-based products are used domestically and internationally by research scientists in pharmaceutical, academic and government research organizations to study human disease and basic cell biology. LCT's products eliminate the need for scientists to create their own cells, media and reagents or attempt to adapt "off the shelf" products to match specific experimental needs and they are superior to using animals or non-human animal cells as research tools because they are more relevant to the study of human disease. Strict quality assurance provides a high level of consistency and standardization of these products. LCT offers products that contain no animal products ("called "Xeno-free" products), allowing researchers to have better control of their experiments and to conduct research using products that ultimately can be more appropriate for therapeutic applications.

Often LCT's research customers use our cell-based research products in their clinical research, eventually adapting them for therapeutic applications. If one of our research products is adopted by a successful producer of therapeutic cells, ISCO may become a supplier to the much larger therapeutic market through LCT's products. This is based on the fact that once regulatory product submissions are made to the FDA and similar authorities, the media and reagents used during development cannot be changed easily after approval. These uses of LCT's products bring opportunities to ISCO for future therapeutic products. Such is the case with LCT's Fibrolife® media, which CytoGraft (Novato, CA) is using as part of the process of creating its tissue engineered vascular grafts.

LCT products and applications include:

- Human skin cells and associated reagents (DermaLife®) for the study of skin disease, toxicology or wound healing.
- Human cells from the heart and blood vessels and associated reagents (VascuLife®), used by researchers to study cardiovascular disease and cancer.
- Human "pooled" liver cells from many donors appropriate for conducting screening tests on potential drug candidates.
- Human bronchial and tracheal cell lines for the study of toxicity, cystic fibrosis, asthma and pathogenesis.
- Human mammary epithelial cell lines for the study of breast cancer, three dimensional culture and carcinogen screening.

- Adult stem cells (called mesenchymal stem cells) and the reagents necessary to differentiate them into various tissues, including bone, cartilage and fat. These products are valuable for researchers in the emerging field of regenerative medicine.

- Human prostate cells and specialized medium (ProstaLife™) to study prostate disease including cancer.

- Human renal and bladder cells and associated media (RenaLife™) to study renal and bladder diseases.

- Human corneal cells and associated media (OccuLife™) for the study of corneal disease and as a model of toxicology for consumer product testing.

- An assortment of many other cell culture reagents and supplements for the growth, staining and freezing of human cells.

Each LCT cell product is quality tested for the expression of specific markers (to assure the cells are the correct type), proliferation rate, viability, morphology and absence of pathogens. Each cell system also contains associated donor information and all informed consent requirements are strictly followed.

LCT brand products are currently distributed domestically through LCT's direct sales force and in Europe through CellSystems GmbH. LCT has set up distribution contracts with distributors in Japan, China, South Korea, Taiwan, Malaysia, Singapore and India. In addition, LCT manufactures cell culture products under OEM contracts with American Type Culture Collection ("ATCC"), Millipore Corporation and Life Technology (formerly known as Invitrogen Corporation).

Our Markets

Therapeutic Markets

ISCO is currently pursuing a number of scientific development programs designed to lead to the creation of new therapeutic products. We anticipate that, with their superior immune-matching characteristics, our cells will be able to reduce or eliminate the need for immune-suppression drugs and the adverse reactions they trigger in patients.

Parkinson's disease. Parkinson's disease ("PD") is one of the most common neurodegenerative diseases and the most common movement disorder in the US. Around five million people suffer from the disease worldwide. 50,000-60,000 new cases of PD are diagnosed each year in the US. Most people who get Parkinson's are over 50 years of age. However, it could affect those who are younger. Currently, there is no effective treatment of PD.

Liver disease. According to the American Liver Foundation, one in ten persons is affected by liver disease and these numbers are on the rise (2007). Chronic liver disease and cirrhosis was the twelfth leading cause of total deaths in 2007 in the US (National Vital Statistics Reports). The only effective treatment currently available for people with liver failure is full or partial organ transplantation. Unfortunately, the demand for organs far exceeds the number of organs available. According to the United Network for Organ Sharing, there are currently around 16,876 persons on the waiting list for a liver transplant in the US (February 27, 2012). Liver cell transplantation has been used in early stage clinical trials to treat patients with liver failure and genetically caused metabolic defects. This therapy has proven to be especially useful as a "bridge" to keep patients alive until they can receive a whole liver transplant, as well as an alternative to whole-organ transplantation in specific cases.

Diabetes. Diabetes is becoming more prevalent in the United States. From 1980 through 2008, the number of Americans with diabetes has more than tripled from 5.6 million to 18.1 million. Normally islet ß cells in the pancreas produce insulin to promote the uptake of glucose by cells in the body. Degeneration of pancreatic islet cells results in insufficient insulin in the bloodstream hence type 1 diabetes. While diabetics can be treated with insulin injections, this only provides intermittent glucose control. Transplantation of pancreatic islet cells from one person to another has been shown to relieve the suffering and side effects caused by current therapies. However, since each patient needs in the order of 500 million functional islet cells at any one time and the primary source of such cells is donation from other people, islet cell therapy is not practical today.

Corneal disease. According to the World Health Organization, 4.9 million people worldwide suffer blindness from corneal scarring and vascularization while ocular trauma and corneal ulcerations affect close to two million people. The back log is particularly bad in Asia where there is tremendous shortage of cadaver-derived corneas for cultural and other reasons. For example, India has about four million corneally blind according to Dr. Narinder Mehra, Professor at the All India Institute of Medical Sciences ("AIIMS"). According to the He Eye System, around two million Chinese are in need of a cornea transplant.

Retinal diseases. Diseases involving retinal degeneration include age-related macular degeneration ("AMD") and retinitis pigmentosa ("RP"). These diseases are characterized by the death of critical photoreceptor cells called rods and cones. Photoreceptor death is due to an abnormality and/or to disruption or death of supportive cells called retinal pigment epithelial ("RPE") cells. According to a 2004 study on *Blindness and Blinding Diseases in the US* published by the University of Washington, approximately 13 million Americans have signs of AMD, over 10 million suffer visual loss and over 200,000 are legally blind from the disease.

Skin Care Market

Anti-aging represents a significant portion of the prestige facial skincare market. Despite the recessionary economy, sales of anti-aging products increased in 2011. Because consumers have limited discretionary spending, they are attracted to skincare products that are recommended by a professional whom they know and trust and have increased the frequency of their visits to spas, beauty institutes and doctors' offices.

Innovation is present at all levels of the market. In order to make claims that their products can actually diminish the signs of aging, marketers are constantly looking for new combinations of specialty ingredients—compounds that provide a demonstrable cosmetic or therapeutic effect. The category of "bio-tech" skin care is a whole new opportunity that is just beginning to be developed.

Research Market

The research market for cell systems is made up of scientists performing basic and applied research in the biological sciences. Basic research involves the study of cell biology and biochemical pathways. Applied research involves drug discovery, vaccine development, clinical research and cell transplantation. The domestic market can be broken into three segments: (i) academic researchers in universities and privately-funded research organizations; (ii) government institutions such as the National Institutes of Health, the US Army, the US Environmental Protection Agency and others; and (iii) industrial organizations such as pharmaceutical companies and consumer product companies. It is estimated that the combined academic and government markets comprise approximately 40% of the total market and that the industrial segment comprises approximately 60%. We believe the following are the main drivers in the research market for commercial cell systems:

- The need for experimental human cells which are more predictive of human biology than are non-human cells or genetically-modified cell lines or living non-human animals.
- The emerging field of stem-cell-based regenerative medicine and the increase in associated grant money to study stem cells is driving the market not only for stem cell products but also for cell culture products in general.
- The desire to lower the cost of drug development in the pharmaceutical industry. We believe that human cell systems may provide a platform for screening toxic drugs early in the development process, thus avoiding late stage failures in clinical trials and reducing costs.
- The need to eliminate animal products in research reagents that may contaminate future therapeutic products.
- The need for experimental control. Serum-free defined media provides the benefit of experimental control because there are fewer undefined components.
- The need for consistency in experiments that can be given by quality controlled products.
- The need to eliminate in-house formulation of media, obtain human tissue or perform cell isolation.
- The need to reduce animal testing in the consumer products industry.

The global market for human cell systems for use in basic research exceeds several hundred million dollars annually with continuing anticipated growth.

Intellectual Property

Patents

In 2012 we were granted three patents covering different aspects of our proprietary internally-generated parthenogenetic technology. Two of the 2012 patents, granted in Israel and Russia, cover the process for obtaining human embryonic stem cells using parthenogenetically activated oocytes. We currently have patents for this technology in the United States, Singapore, and South Africa, with additional patent applications pending in other countries. The third patent, granted in the United States, covers the method for deriving endoderm cells using stem cells. Patent applications covering this technology are also pending outside the United States. We have pending patents covering homozygous parthenogenetic stem cells that can be immune matched to millions of persons and methods for deriving them. Other patents and pending patent applications include intellectual property concerning skin care formulations and methods of manufacturing stem-cell based skin care products, methods to differentiate stem cells and methods to produce three dimensional corneal tissue constructs.

In addition, we have obtained exclusive worldwide licenses to patents and patent applications from Advanced Cell Technologies, Inc. ("ACTC"). Our licensed and internally-generated patents provide the intellectual property rights we need to operate in the pluripotent stem cell field and to progress through the stages of creating a therapeutic stem cell product. These stages include the derivation, isolation, expansion and differentiation of stem cells. The intellectual property available to us enables us to create manufacturing methods that eliminate animal proteins in order to satisfy FDA requirements. In addition, we have rights to sell research products derived through our licensed intellectual property in order to generate income.

The majority of the patents and applications have been filed in the US and in foreign countries through the Patent Corporation Treaty or by direct country filings in those jurisdictions deemed significant to our operations. We also have an exclusive license to the only patent issued by the US Patent & Trademark Office for the creation of human Embryonic Stem cells ("hES") using somatic cell nuclear transfer ("SCNT") for human therapeutic use. Our currently issued patents will expire at various times commencing in 2026.

We have protected our research products and branding through both patents and trademarks. Lifeline Skin Care has filed patent applications covering its proprietary formulations and methods of using stem cells to create skin care products. ISCO has registered trademarks on its company name, logo and various product names to protect its branding investment. Lifeline Cell Technology's reagent formulations are protected as trade secrets.

The patentability of human cells in countries throughout the world reflects widely differing governmental attitudes. In the US, hundreds of patents covering human embryonic stem cells have already been granted, including those on which we rely. In certain countries in Europe, the European Patent Office currently appears to take the position that hES cells themselves are not patentable. ISCO believes that such restrictions are not appropriate when considering parthenogenetic stem cells and is working with patent legislators in Europe to create exemptions for human parthenogenetic stem cells. As a result, we plan to file internationally wherever feasible and focus our research strategy on cells that best fit the US and foreign country definitions of patentable cells and technologies.

License Agreements

In May 2005, we entered into three exclusive license agreements ("ACT IP," "Infigen IP," and "UMass IP" or collectively "ACTC agreements") with Advanced Cell Technology ("ACTC ") for the production of therapeutic products in the fields of diabetes, liver disease, retinal disease and the creation of research products in all fields. In February 2013, each of these license agreements was amended and restated, pursuant to which we continue to have rights to ACTC's human cell patent portfolio and non-exclusive rights to future developments in the area of diabetes and liver disease, as well as certain rights to patents covering Single Blastomere technology. A significant feature of the licensed Single Blastomere technology is a method of ethically obtaining human embryonic stem cells that allows us to isolate and differentiate hES stem cells directly from a "blastocyst" without harming the embryo. Using other licensed technology, the hES cells can be immediately differentiated into stem cells capable of expansion and differentiation into other types of cells. Under the terms of the amendments we have also acquired additional exclusive rights in the area of parthenogenesis and the use of parthenogenetically derived stem cells for treatment of human diseases.

The agreements with ACTC further provide that we are no longer obligated to make milestone payments or to meet any minimum research and development requirements. We will no longer pay any royalties pursuant to ACT IP or Infigen IP and our obligation to pay minimum annual royalties pursuant to UMass IP has been reduced to $75,000, payable semi-annually to ACTC.

The agreements continue until the expiration of the last valid claim within the licensed patent rights. Either party to each amended and restated license agreement may terminate the agreement for an uncured breach or we may terminate the agreements at any time with a 30 days written notice.

Research Agreements

Our scientific founder, Elena Revazova, MD, PhD, has conducted basic research at the Scientific Center for Obstetrics, Gynecology and Perinatology of the Russian Academy of Medical Sciences in Moscow, Russia. Through a research agreement, we have retained all intellectual property rights in the US and other major markets with respect to such research, while the Institute has retained such rights in Russia.

In 2012 and 2011, ISCO spent $3.6 million and $4.4 million on research and development activities, respectively. ISCO actively pursues sponsored research agreements with local and international research organizations and has established research collaborations with: The Scripps Research Institute (La Jolla); the University of Wuerzburg; Wuerzburg Germany; and the Sankara Nethralaya Hospital (Chennai, India). We are in frequent negotiations to develop collaborative research agreements with additional domestic and international research organizations from both the public and private sector. These agreements allow us to team up with nationally and internationally known research scientists to study stem cell technologies developed or licensed by ISC for possible use in therapeutic or research fields. Dr. Jeanne Loring at The Scripps Research Institute is focused on characterizing parthenogenetic stem cells. Dr. Mueller at Wuerzburg University is studying the derivation of human neurons from parthenogenetic stem cells. In addition to the sponsored research agreements and collaborations mentioned above, we provide our stem cell lines to researchers at many universities and other research facilities. Ordinarily, the stem cell lines are provided without charge, but we retain the right to either an exclusive or non-exclusive right to use any technology that may be developed that is necessary in order for us to make therapeutic products based on the research that uses our cells.

Competition

The development of therapeutic and diagnostic agents for human disease is intensely competitive. Pharmaceutical companies currently offer a number of pharmaceutical products to treat diabetes, liver diseases, retinal disease, corneal disease and other diseases for which our technologies may be applicable. 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 therapeutic 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. We believe that our most significant competitors will be fully integrated pharmaceutical companies and more established biotechnology companies. Smaller companies may also be significant competitors, particularly through collaborative arrangements with large pharmaceutical or biotechnology companies.

Some of our primary competitors in the development of stem cell therapies are Genzyme Corporation, StemCell, Advanced Cell Technology Inc., Aastrom Biosciences and ViaCyte. Our primary competitors in the skin care market are Obagi, Skinceuticals, SkinMedica, and Murad. In the field of research products, our primary competitors for stem cells, media and reagents are Lonza, Chemicon, Life Technologies (formerly Invitrogen), StemCell Technologies, Merck (formerly Millipore), BioTime and Specialty Media. In each of these areas many of our competitors have substantially greater resources and experience than we do.

Sales and Marketing

To date, sales of our research products have been derived primarily through our in-house sales force and via OEM contracts with American Tissue Culture Collection (“ATCC”), Millipore, Life Technology (formerly Invitrogen) and distribution contracts with our European distributor CellSystems Biotechnologies Vertrieb GmbH. During 2012, approximately 22% of our sales was from two customers. We anticipate increased sales in 2013 through our newly established distributors in Asia and India.

The skin care line was launched in November 2010 through the company’s own website—www.lifelineskincare.com. Since that time distribution has expanded to include destination and resort spas, dermatologists, plastic surgeons and international markets.

Government Regulation

Regulation by governmental authorities in the US and other countries is a significant factor in development, manufacture and marketing of our proposed therapeutic and skin care products and in our ongoing research and product development activities. The nature and extent to which such regulation applies to us will vary depending on the nature of any products that may be developed by us. We anticipate that many, if not all, of our proposed therapeutic products will require regulatory approval by governmental agencies prior to commercialization. In particular, human therapeutic products are subject to rigorous preclinical and clinical testing and other approval procedures of the FDA, and similar regulatory authorities in European and other countries. Various governmental statutes and regulations also govern or influence testing, manufacturing, safety, labeling, storage and recordkeeping related to such products and their marketing. The process of obtaining these approvals and the subsequent compliance with appropriate statutes and regulations require the expenditure of substantial time and money, and there can be no guarantee that approvals will be granted.

We have made extensive progress in obtaining the necessary regulatory approvals of research protocols, informed consent documents and donor protection procedures to obtain oocytes in the US for the production of our parthenogenetic stem cell bank. These approvals include: federally mandated Internal Review Board (IRB) and State of California required Stem Cell Research Oversight (SCRO) committee.

Currently the US government, though NIH appropriations restrictions, prohibits the use of federal funds in research involving parthenogenetic stem cells. Since we cannot receive federal funds for our stem cell research, we have decided to work with various foundations who are involved with stem cell research.

FDA Approval Process

Prior to commencement of clinical studies involving humans, preclinical testing of new pharmaceutical products is generally conducted on animals in the laboratory to evaluate the potential efficacy and safety of the product candidate. The results of these studies are submitted to the FDA as a part of an Investigational New Drug (“IND”) application, which must become effective before clinical testing in humans can begin. Typically, human clinical evaluation involves a time-consuming and costly three-phase process. In Phase 1, clinical trials are conducted with animal tests to establish safety followed with a small number of people to further assess safety and to evaluate the pattern of drug distribution and metabolism within the body. In Phase 2, clinical trials are conducted with groups of patients afflicted with a specific disease in order to determine preliminary efficacy, possible dosages and expanded evidence of safety. In some cases, an initial trial is conducted in diseased patients to assess both preliminary efficacy and preliminary safety and patterns of drug metabolism and distribution, in which case it is referred to as a Phase 1-2 trial. In Phase 3, large-scale, multi-center, comparative trials are conducted with patients afflicted with a target disease in order to provide enough data to demonstrate the efficacy and safety required by the FDA. The FDA closely monitors the progress of each of the three phases of clinical testing and may, at its discretion, re-evaluate, alter, suspend or terminate the testing based upon the data which have been accumulated to that point and its assessment of the risk/benefit ratio to the patient. Monitoring of all aspects of the study to minimize risks is a continuing process. All adverse events must be reported to the FDA.

The results of the preclinical and clinical testing on a non-biologic drug and certain diagnostic drugs are submitted to the FDA in the form of a New Drug Application ("NDA") for approval prior to commencement of commercial sales. In the case of vaccines or gene and cell therapies, the results of clinical trials are submitted as a Biologics License Application ("BLA"). In responding to a NDA or BLA, the FDA may grant marketing approval, request additional information or refuse to approve if the FDA determines that the application does not satisfy its regulatory approval criteria. There can be no assurance that approvals will be granted on a timely basis, if at all, for any of our proposed products.

European and Other Regulatory Approval

Whether or not FDA approval has been obtained, approval of a product by comparable regulatory authorities in Europe and other countries will likely be necessary prior to commencement of marketing the product in such countries. The regulatory authorities in each country may impose their own requirements and may refuse to grant an approval, or may require additional data before granting it, even though the relevant product has been approved by the FDA or another authority. As with the FDA, the regulatory authorities in the European Union ("EU") and other developed countries have lengthy approval processes for pharmaceutical products. The process for gaining approval in particular countries varies, but generally follows a similar sequence to that described for FDA approval. In Europe, the European Committee for Proprietary Medicinal Products provides a mechanism for EU-member states to exchange information on all aspects of product licensing. The EU has established a European agency for the evaluation of medical products, with both a centralized community procedure and a decentralized procedure, the latter being based on the principle of licensing within one member country followed by mutual recognition by the other member countries.

Other Regulations

We are also subject to various US federal, state, local and international laws, regulations and recommendations relating to the treatment of oocyte donors, the manufacturing environment under which human cells for therapy are derived, safe working conditions, laboratory and manufacturing practices and the use and disposal of hazardous or potentially hazardous substances, including radioactive compounds and infectious disease agents, used in connection with our research work. We cannot accurately predict the extent of government regulation which might result from future legislation or administrative action.

Other Regulations for Lifeline Skin Care

The Federal Food, Drug and Cosmetic Act (FD&C Act) and the Fair Packaging and Labeling Act ("FPLA") provide the regulatory framework for selling cosmetics. The FD&C Act ensure that the products are not injurious to users under normal conditions of use. The FPLA insures that the labeling is not false or misleading and includes all relevant information in a prominent and conspicuous manner.

Safety and efficacy testing of the products is performed by independent third party testing organization.

Employees

In addition to our three executive officers, we utilize the services of 41 full-time staff members.

Item 1A. RISK FACTORS

You should carefully consider the risks described below as well as other information provided to you in this document, including information in the section of this document entitled "Forward Looking Statements". 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 Related to Our Business

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

Our business is at an early stage of development. We do not have any products in late stage clinical trials. We are still in the early stages of identifying and conducting research on potential therapeutic products. Our potential therapeutic products will require significant research and development and preclinical and clinical testing prior to regulatory approval in the United States and other countries. We may not be able to obtain regulatory approvals, enter clinical trials for any of our product candidates, or commercialize any products. Our 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. Any product using any of our technology may fail to provide the intended therapeutic benefits, or achieve therapeutic benefits equal to or better than the standard of treatment at the time of testing or production.

We have a history of operating losses, do not expect to be profitable in the near future and our independent registered public accounting firm has expressed doubt as to our ability to continue as a going concern.

We have not generated any profits since our entry into the biotechnology business and have incurred significant operating losses. We expect to incur additional operating losses for the foreseeable future and, as we increase our research and development activities, we expect our operating losses to increase significantly. We do not have any sources of significant or sustained revenues and may not have any in the foreseeable future.

We have expended substantial funds to develop our technologies, products and product candidates. Based on our financial condition, recurring losses and projected spending, which raise substantial doubts about our ability to continue as a going concern, our independent registered public accounting firm included an explanatory paragraph in its report on our financial statements as of and for the year ended December 31, 2012 regarding this uncertainty. The inclusion of the going concern statement by our auditors may adversely affect our stock price and our ability to raise needed capital or enter into advantageous contractual relationships with third parties. If we were unable to continue as a going concern, the values we receive for our assets on liquidation or dissolution could be significantly lower than the values reflected in our financial statements.

We will need additional capital to conduct our operations and develop our products and our ability to obtain the necessary funding is uncertain.

During 2012, we used a significant amount of cash to finance the continued development and testing of our product candidates, and we need to obtain significant additional capital resources in order to develop products going forward. Our burn rate as of the fourth quarter ended December 31, 2012 was approximately $580,000 per month excluding capital expenditures and patent costs averaging $70,000 per month. We may not be successful in maintaining our normal operating cash flow and the timing of our capital expenditures may not result in cash flows sufficient to sustain our operations through 2013. If financing is not sufficient and additional financing is not available or available only on terms that are detrimental to our long-term survival, it could have a major adverse effect on our ability to continue to function. The timing and degree of any future capital requirements will depend on many factors, including:

- the accuracy of the assumptions underlying our estimates for capital needs in 2013 and beyond;
- scientific progress in our research and development programs;
- the magnitude and scope of our research and development programs and our ability to establish, enforce and maintain strategic arrangements for research, development, clinical testing, manufacturing and marketing;
- our progress with preclinical development and clinical trials;
- the time and costs involved in obtaining regulatory approvals;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims; and
- the number and type of product candidates that we pursue.

Additional financing through strategic collaborations, public or private equity or debt 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 stockholders, and any debt financings will likely involve covenants restricting our business activities. Additional financing may not be available on acceptable terms, or at all. Further, if we obtain additional funds 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 research or product development initiatives, any of which could have a material adverse effect on our financial condition or business prospects.

We have limited clinical testing and regulatory capabilities, and human clinical trials are subject to extensive regulatory requirements, very expensive, time-consuming and difficult to design and implement. Our products may fail to achieve necessary safety and efficacy endpoints during clinical trials, which may limit our ability to generate revenues from therapeutic products.

Due to the relatively early stage of our therapeutic products and stem cell therapy-based systems, we have not yet invested significantly in clinical testing and regulatory capabilities, including for human clinical trials. We cannot assure you that we will be able to invest or develop resources for these capabilities successfully or as expediently as necessary. In particular, human clinical trials can be very expensive and difficult to design and implement, in part because they are subject to rigorous regulatory requirements. The clinical trial process is time consuming. We estimate that clinical trials of our product candidates will take at least several years to complete. Furthermore, failure can occur at any stage of the trials, and we could encounter problems that cause us to abandon or repeat clinical trials. The commencement and completion of clinical trials may be affected by several factors, including:

- unforeseen safety issues;
- determination of dosing issues;

- inability to demonstrate effectiveness during clinical trials;
- slower than expected rates of patient recruitment;
- inability to monitor patients adequately during or after treatment; and
- inability or unwillingness of medical investigators to follow our clinical protocols.

In addition, we or the FDA may suspend our clinical trials at any time if it appears that we are exposing participants to unacceptable health risks or if the FDA finds deficiencies in our IND submissions or the conduct of these trials.

Patents held 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 pharmaceutical, biotechnology and other companies, universities and research institutions have filed patent applications or have been issued patents relating to cell therapy, 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 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, we might not 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.

Our competition includes fully integrated biotechnology, pharmaceutical and cosmetic companies that have significant advantages over us.

The market for therapeutic stem cell products is highly competitive. We expect that our most significant competitors will be fully integrated and more established pharmaceutical, biotechnology and cosmetic companies. These companies are developing stem cell-based products and they have significantly greater capital resources and research and development, manufacturing, testing, regulatory compliance, 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 protection or product commercialization than we are able to achieve. Competitive products may render any products or product candidates that we develop obsolete.

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

Our business depends in part on licenses from third parties. These third party license agreements impose obligations on us, such as payment obligations. If a licensor believes that we have failed to meet our obligations under a license agreement, the licensor could seek to limit or terminate our license rights, which could lead to costly and time consuming litigation and, potentially, a loss of the licensed rights. During the period of any such litigation, our ability to carry out the development and commercialization of potential products could be significantly and negatively affected. If our license rights were restricted or ultimately lost, our ability to continue our business based on the affected technology platform could be severely affected adversely.

Significant delays or reductions in U.S. Government funding may negatively affect our results of operations.

We estimate that governmental funding, either directly or indirectly (through sponsorship of academic research), comprises approximately 40% of the market for basic and applied research in biological sciences, which is the target market for our primary human cell research products. The U.S. Government is considering significant changes in government spending and other governmental programs, with several automatic spending cuts being implemented. There are many variables in how these laws could be implemented that make it difficult to determine specific impacts on our customers, and we are unable to predict the impact that these automatic spending cuts would have on funding our customers receive. Additionally, U.S. Governmental programs are subject to annual congressional budget authorization and appropriation processes. However, whether through the automatic cuts or other decisions, long-term funding for certain programs in which our research product customers participate may be reduced, delayed or cancelled. In the event that governmental funding for any of our research product customers is reduced or delayed, our sales to those customers would likely suffer, which could have a material adverse effect on our results of operations.

Restrictive and extensive government regulation could slow or hinder our production of a cellular product.

The research and development of stem cell therapies is subject to and restricted by extensive regulation by governmental authorities in the United States and other countries. The process of obtaining FDA and other necessary regulatory approvals is lengthy, expensive and uncertain. We may fail to obtain the necessary approvals to continue our research and development, which would hinder our ability to manufacture or market any future product.

Research in the field of embryonic stem cells is currently subject to strict government regulations, and our operations could be restricted or outlawed by any legislative or administrative efforts impacting the use of nuclear transfer technology or human embryonic material.

Significant portions of our business are focused on human cell therapy, which includes the production of human differentiated cells from stem cells and involves human oocytes. Although our focus is on parthenogenetic stem cells derived from unfertilized oocytes, certain aspects of that work may involve the use of embryonic stem cells. Research utilizing embryonic stem cells is controversial, and currently subject to intense scrutiny, particularly in the area of the use of human embryonic material.

Federal law is not as restrictive regarding the use of federal funds for human embryonic cell research, commonly referred to as hES cell research as it once was. However, federal law does prohibit federal funding for creation of parthenogenetic stem cells. Our operations may also be restricted by future legislative or administrative efforts by politicians or groups opposed to the development of hES cell technology, parthenogenetic cell technology or nuclear transfer technology. Further, future legislative or administrative restrictions could, directly or indirectly, delay, limit or prevent the use of hES technology, parthenogenetic technology, or nuclear transfer technology, the use of human embryonic material, or the sale, manufacture or use of products or services derived from nuclear transfer technology or hES or parthenogenetic technology.

Restrictions on the use of human 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.

Although our stem cells are derived from unfertilized human eggs through a process called “parthenogenesis” that can produce cells suitable for therapy, but are believed to be incapable of producing a human being, such cells are nevertheless often incorrectly referred to as “embryonic” stem cells. Because the use of human embryonic stem cells gives rise to ethical, legal and social issues regarding the appropriate use of these cells, our research related to human parthenogenic stem cells could become the subject of adverse commentary or publicity and some political and religious groups may still raise opposition to our technology and practices. In addition, many research institutions, including some of our scientific collaborators, have adopted policies regarding the ethical use of human embryonic tissue, which, if applied to our procedures, may have the effect of limiting the scope of research conducted using our stem cells, thereby impairing our ability to conduct research in this field. In some states, use of embryos as a source of stem cells is prohibited.

To the extent we utilize governmental grants in the future, the governmental entities involved may retain certain rights in technology that we develop using such grant money and we may lose the revenues from such technology if we do not commercialize and utilize the technology pursuant to established government guidelines.

Certain of our licensors’ research has been or is being funded in part by government grants. Our research may also be government-funded in the future. In connection with certain grants, the governmental entity involved retains various rights in the technology developed with the grant. These rights could restrict our ability to fully capitalize upon the value of this research by reducing total revenues that might otherwise be available since such governmental rights may give the government the right to practice the invention without payment of royalties if we do not comply with applicable requirements.

We rely on parthenogenesis, cell differentiation and other stem cell technologies that we may not be able to successfully develop, which may prevent us from generating revenues, operating profitably or providing investors any return on their investment.

We have concentrated our research on our parthenogenesis, cell differentiation and stem cell technologies, and our ability to operate profitably will depend on being able to successfully implement or develop these technologies for human applications. These are emerging technologies with, as yet, limited human applications. We cannot guarantee that we will be able to successfully implement or develop our nuclear transfer, parthenogenesis, cell differentiation and other stem cell technologies or that these technologies 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 an additional source of revenues.

The outcome of pre-clinical, clinical and product testing of our products is uncertain, and if we are unable to satisfactorily complete such testing, or if such testing yields unsatisfactory results, we may be unable to commercially produce our proposed products.

Before obtaining regulatory approvals for the commercial sale of any potential human products, our products will be subjected to extensive pre-clinical and clinical testing to demonstrate their safety and efficacy in humans. The clinical trials of our prospective products, or those of our licensees or collaborators, may not demonstrate the safety and efficacy of such products at all, or to the extent necessary to obtain appropriate regulatory approvals. Similarly, the testing of such prospective products may not be completed in a timely manner, if at all, or only after significant increases in costs, program delays or both, all of which could harm our ability to generate revenues. In addition, our prospective products may not prove to be more effective for treating disease or injury than current therapies. Accordingly, we may have to delay or abandon efforts to research, develop or obtain regulatory approval to market our prospective products. The failure to adequately demonstrate the safety and efficacy of a therapeutic product under development could delay or prevent regulatory approval of the product and could harm our ability to generate revenues, operate profitably or produce any return on an 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. Research and discoveries by other biotechnology, agricultural, pharmaceutical or other companies may render our technologies or potential products or services uneconomical or result in products superior to those we develop. Similarly, any technologies, products or services we develop may not be preferred to any existing or newly developed technologies, products or services.

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

The biotechnology, cosmeceutical, 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, obtain them in a timely manner, or that the breadth or degree of protection that 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 will not be challenged, invalidated or infringed; or
- patents will not be issued to other parties, which may be infringed by our potential products or technologies.

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 nuclear transfer 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.

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 our competitors are located in those 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.

Our business is highly dependent upon maintaining licenses with respect to key technology.

Although our primary focus relates to intellectual property we have developed internally, some of the patents we utilize are licensed to us by Advanced Cell Technology, which has licensed some of these from other parties, including the University of Massachusetts.

These licenses are subject to termination under certain circumstances. 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.

Although our licenses with Advanced Cell Technology allow us to cure any defaults under the underlying licenses to them and to take over the patents and patents pending in the event of default by Advanced Cell Technology, the cost of such remedies could be significant and we might be unable to adequately maintain these patent positions. If so, such inability could have a material adverse effect on our business.

Cybersecurity breaches could expose us to liability, damage our reputation, compromise our confidential information or otherwise adversely affect our business.

We maintain sensitive company data on our computer networks, including our intellectual property and proprietary business information, as well as certain personal information regarding customers who purchase our skin care products online. We face a number of threats to our networks from unauthorized access, security breaches and other system disruptions. Despite our security measures, our infrastructure may be vulnerable to attacks by hackers or other disruptive problems. Any such security breach may compromise information stored on our networks and may result in significant data losses or theft of our intellectual property, proprietary business information or our customers' personally identifiable information. A cybersecurity breach could hurt our reputation by adversely affecting the perception of customers and potential customers of the security of their orders and personal information. In addition, a cybersecurity attack could result in other negative consequences, including disruption of our internal operations, increased cyber security protection costs, lost revenues or litigation.

Certain of our technology may not be subject to protection through patents, which leaves us vulnerable to theft of our technology.

Certain parts of our know-how and technology are not patentable or are trade secrets. To protect our proprietary position in such know-how and technology, we intend to require all employees, consultants, advisors and collaborators to enter into confidentiality and invention ownership agreements with us. These agreements may not 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.

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. 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.

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.

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.

We may be 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.

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. Reimbursement in the United States or foreign countries may not be available for any products we may develop, and, if available, may be decreased in the future. Also, reimbursement amounts may 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 may be expensive to manufacture, and they may not be profitable if we are unable to control the costs to manufacture them.

Our products may be significantly more expensive to manufacture than other therapeutic products currently on the market today. 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 other therapeutic products 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.

To be successful, our proposed products must be accepted by the health care community, which can be very slow to adopt or unreceptive to new technologies and products.

Our proposed products and those developed by our collaborative partners, if approved for marketing, may not achieve market acceptance since hospitals, physicians, patients or the medical community in general may decide not to accept and utilize these products. The products that we are attempting to develop represent substantial departures from established treatment methods and will compete with a number of more conventional therapies manufactured and marketed by major pharmaceutical companies. The degree of market acceptance of any of our developed products will depend on a number of factors, including:

- our establishment and demonstration to the medical community of the clinical efficacy and safety of our proposed products;
- our ability to create products that are superior to alternatives currently on the market;
- our ability to establish in the medical community the potential advantage of our treatments over alternative treatment methods; and
- reimbursement policies of government and third party payers.

If the healthcare community does not accept our products for any of the foregoing reasons, or for any other reason, our business would be materially harmed.

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

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. In the past year we have had significant turnover in our management personnel, and there is intense competition for qualified personnel in the areas of our present and planned activities. Accordingly, we may not be able to continue to attract and retain the qualified personnel, which would adversely affect the development of our business.

We may not have sufficient 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. We currently have a limited amount of product liability insurance, which may not be adequate to meet potential product liability claims. 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. Adequate insurance coverage may not be available in the future on acceptable terms, if at all. If available, we may not be able to maintain any such insurance at sufficient levels of coverage and any such insurance may not provide adequate protection against potential liabilities. Whether or not a product liability insurance policy is obtained or maintained in the future, any product liability claim could harm our business or financial condition.

Risks Related to the Securities Markets and Our Capital Structure

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 such company's ability to obtain additional funding;
- announcements of research activities, business developments, technological innovations or new products by competitors;
- entering into or terminating strategic relationships;
- changes in government regulation;
- disputes concerning patents or proprietary rights;
- changes in our revenues or expense levels;
- public concern regarding the safety, efficacy or other aspects of the products or methodologies we are developing;
- 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.

Two of our executive officers and directors can significantly influence our direction and policies, and their interests may be adverse to the interests of our other stockholders.

As of March 15, 2013, Dr. Andrey Semechkin, Chief Executive Officer and Co-Chairman of the Board of Directors, and Dr. Ruslan Semechkin, Vice President of International Stem Cell and a director, beneficially own approximately 39% of our outstanding shares of common stock, including shares issuable upon conversion of all the outstanding shares of our Series D and Series G Preferred Stock and shares issuable upon exercise of options and warrants. As a result of their holdings and the rights, preferences and privileges of those series of preferred stock, Dr. Andrey Semechkin and Dr. Ruslan Semechkin may appoint and remove two of our six directors, and propose candidates for nomination of up to two additional directors, and therefore will be able to significantly influence the election of our Board of Directors. They may also prevent corporate transactions (such as a merger, consolidation, a sale of all or substantially all of our assets or a financing transaction) that may be favorable from the standpoint of our other stockholders or they may cause a transaction that our other stockholders may view as unfavorable.

The application of the "penny stock" rules to our common stock could limit the trading and liquidity of our common stock, adversely affect the market price of our common stock and increase stockholder transaction costs to sell those shares.

As long as the trading price of our common stock is below $5.00 per share, the open market trading of our common stock will be subject to the "penny stock" rules, unless we otherwise qualify for an exemption from the "penny stock" definition. The "penny stock" rules impose additional sales practice requirements on certain broker-dealers who sell securities to persons other than established customers and accredited investors (generally those with assets in excess of $1,000,000 or annual income exceeding $200,000 or $300,000 together with their spouse). These regulations, if they apply, require the delivery, prior to any transaction involving a penny stock, of a disclosure schedule explaining the penny stock market and the associated risks. Under these regulations, certain brokers who recommend such securities to persons other than established customers or certain accredited investors must make a special written suitability determination regarding such a purchaser and receive such purchaser's written agreement to a transaction prior to sale. These regulations may have the effect of limiting the trading activity of our common stock, reducing the liquidity of an investment in our common stock and increasing the transaction costs for sales and purchases of our common stock as compared to other securities.

The rights of holders of our common stock are subordinate to significant rights, preferences and privileges of our existing three series of preferred stock, and to any additional series of preferred stock created in the future.

Under the authority granted by our Certificate of Incorporation, our Board of Directors has established three separate series of outstanding preferred stock, including Series B, Series D and Series G Preferred Stock, which have various rights and preferences senior to the shares of common stock. Shares of our existing preferred stock are also entitled to enhanced voting rights and liquidation preferences. As a result of the various voting rights, the holders of our existing preferred stock may be able to block the proposed approval of various corporate actions, which could prevent us from achieving strategic or other goals dependent on such actions. As a result of the liquidation preferences, in the event that we voluntarily or involuntary liquidate, dissolve or windup our affairs (including as a result of a merger), the holders of our preferred stock would be entitled to receive stated amounts per share, including any accrued and unpaid dividends, before any distribution of assets or merger consideration is made to holders of our common stock. Additionally, these shares of preferred stock may be converted, at the option of the holders, into common stock at rates that may be adjusted, for the benefit of holders of preferred stock, if we sell equity securities below the then existing conversion prices. Any such adjustments would compound the potential dilution suffered by holders of common stock if we issue additional securities at prices below the current conversion prices (ranging from $0.20 to $0.38 per share). Additionally, subject to the consent of the holders of our existing preferred stock, our Board of Directors has the power to issue additional series of preferred stock and to designate, as it deems appropriate (subject to the rights of the holders of the current series of preferred stock), the special dividend, liquidation or voting rights of the shares of those additional series. The creation and designation of any new series of preferred stock could adversely affect the voting power, dividend, liquidation and other rights of holders of our common stock and, possibly, any other class or series of stock that is then in existence.

The market price for our common stock may be particularly volatile given our status as a relatively unknown company with a limited operating history and lack of profits, which could lead to wide fluctuations in our share price. The price at which stockholders purchase shares of our common stock may not be indicative of the price of our common stock that will prevail in the trading market.

The market for our common stock may be characterized by significant price volatility when compared to seasoned issuers, and we expect that our stock price could continue to be more volatile than a seasoned issuer for the indefinite future. The potential volatility in our share price is attributable to a number of factors. First, there has been limited trading in our common stock. As a consequence of this lack of liquidity, any future trading of shares by our stockholders may disproportionately influence the price of those shares in either direction. Second, we are a speculative or "risky" investment due to our limited operating history and lack of profits to date, and uncertainty of future market acceptance for our potential products. As a consequence of this enhanced risk, more risk averse investors may, under the fear of losing all or most of their investment in the event of negative news or lack of progress, be more inclined to sell their shares on the market more quickly and at greater discounts than would be the case with the stock of a seasoned issuer. Many of these factors will be beyond our control and may decrease the market price of our common stock, regardless of our operating performance. We cannot make any predictions or projections as to what the prevailing market price for our common stock will be at any time or as to what effect that the sale of shares or the availability of shares for sale at any time will have on the prevailing market price.

In addition, the market price of our common stock could be subject to wide fluctuations in response to:

- quarterly variations in our revenues and operating expenses;
- announcements of new products or services by us;
- fluctuations in interest rates;
- significant sales of our common stock;
- the operating and stock price performance of other companies that investors may deem comparable to us; and
- news reports relating to trends in our markets or general economic conditions.

Shares eligible for future sale may adversely affect the market.

From time to time, certain of our stockholders may be eligible to sell all or some of their shares of common stock by means of ordinary brokerage transactions in the open market pursuant to Rule 144 promulgated under the Securities Act of 1933, as amended, subject to certain limitations. In general, pursuant to Rule 144, a stockholder (or stockholders whose shares are aggregated) who is not an affiliate of our company and who has satisfied a six month holding period may, as long as we are current in our required filings with the SEC, sell securities without further limitation. Rule 144 also permits, under certain circumstances, the sale of securities, without any limitations, by a non-affiliate of our company who has satisfied a one year holding period. Affiliates of our company who have satisfied a six month holding period may sell securities subject to limitations. Any substantial sale of our common stock pursuant to Rule 144 or pursuant to any resale prospectus may have an adverse effect on the market price of our securities. Currently, a substantial amount of our securities are either free trading or subject to the release of trading restrictions under the six month or one year holding periods of Rule 144.

Certain provisions of our Certificate of Incorporation and Delaware law may make it more difficult for a third party to affect a change-in-control.

Our Certificate of Incorporation authorizes the Board of Directors to issue up to 20,000,000 shares of preferred stock and our Board of Directors has created and issued shares of three series of preferred stock that remain outstanding, including Series B, Series D and Series G Preferred Stock. The terms of the Series B, Series D and Series G Preferred Stock include, among other things, voting rights on particular matters (for example, with respect to the Series D Preferred Stock, restricting our ability to undergo a change in control or merge with, or sell assets to, a third party), preferences as to dividends and liquidation, and conversion rights. These preferred stock rights diminish the rights of holders of our common stock, and therefore could reduce the value of such common stock. In addition, as long as shares of our Series B, Series D and Series G Preferred Stock remain outstanding, or if our Board creates and issues additional shares of preferred stock in the future with rights that restrict our ability to merge with, or sell assets to, a third party, it could make it more difficult, delay, discourage, prevent or make it more costly to acquire the Company or affect a change-in-control.

The sale or issuance of a substantial number of shares may adversely affect the market price for our common stock.

The future sale of a substantial number of shares of our common stock in the public market, or the perception that such sales could occur, could significantly and negatively affect the market price for our common stock. We expect that we will likely issue a substantial number of shares of our capital stock in financing transactions in order to fund our operations and the growth of our business. Under these arrangements, we may agree to register the shares for resale soon after their issuance. We may also continue to pay for certain goods and services with equity, which would dilute our current stockholders. Also, sales of the shares issued in this manner could negatively affect the market price of our stock.

The sale of our common stock to Aspire Capital may cause substantial dilution to our existing stockholders and the sale of the shares of common stock acquired by Aspire Capital could cause the price of our common stock to decline.

On December 9, 2010, the Company entered into a purchase agreement with Aspire Capital which provided that, upon the terms and subject to the conditions and limitations set forth therein, Aspire Capital is committed to purchase up to an aggregate of $25.0 million of our common stock. As of March 15, 2013, we have sold Aspire Capital 10,533,333 shares of common stock for aggregate proceeds of $6,206,000, and we may sell Aspire Capital up to an additional $18,794,000 of our common stock in the future. Pursuant to the purchase agreement, the number of shares of common stock that we may designate Aspire Capital to purchase is dependent on the closing price of our common stock on the date that we provide Aspire Capital with a purchase notice directing it to purchase shares, and the purchase price per share is the lower of (i) the lowest sale price for the common stock on the date of sale or (ii) the arithmetic average of the three lowest closing sale prices of our common stock during the 12 consecutive business days preceding the date of sale. If we elect to sell additional shares to Aspire Capital under the Common Stock Purchase Agreement, depending upon market liquidity at the time, it may cause the trading price of our common stock to decline.

After Aspire Capital has acquired additional shares of our common stock under the purchase agreement, it may sell all, some or none of such shares. In connection with the purchase agreement, the Company also entered into a registration rights agreement with Aspire Capital, dated December 9, 2010 that provides, among other things, that the Company will register the resale of all shares acquired by Aspire Capital under the purchase agreement. Therefore, sales to Aspire Capital by us pursuant to the purchase agreement may result in substantial dilution to the interests of other holders of our common stock. The sale of a substantial number of shares of our common stock to Aspire Capital pursuant to the purchase agreement, or anticipation of such sales, as well as the resale of such shares by Aspire Capital, could make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect sales. However, we have the right to control the timing and amount of any sales of our shares to Aspire Capital, and we may terminate the purchase agreement at any time at our discretion without any cost to us.

The exercise of outstanding options and warrants to acquire shares of our common stock would cause additional dilution which could cause the price of our common stock to decline.

In the past, we have issued options and warrants to acquire shares of our common stock. At March 15, 2013, there were 11,662,500 warrants, and 15,811,628 vested and 6,920,565 non-vested stock options outstanding, and we may issue additional options, warrants and other types of equity in the future as part of stock-based compensation, capital raising transactions, technology licenses, financings, strategic licenses or other strategic transactions. To the extent these options and warrants are ultimately exercised, existing common stockholders would experience additional dilution which may cause the price of our common stock to decline.

Limitations on director and officer liability and indemnification of our officers and directors by us may discourage stockholders from bringing suit against a director.

Our certificate of incorporation and bylaws provide, with certain exceptions as permitted by governing state law, that a director or officer shall not be personally liable to us or our stockholders for breach of fiduciary duty as a director, except for acts or omissions which involve intentional misconduct, fraud or knowing violation of law, or unlawful payments of dividends. These provisions may discourage stockholders from bringing suit against a director for breach of fiduciary duty and may reduce the likelihood of derivative litigation brought by stockholders on our behalf against a director. In addition, our certificate of incorporation and bylaws may provide for mandatory indemnification of directors and officers to the fullest extent permitted by governing state law.

Compliance with the rules established by the SEC pursuant to Section 404 of the Sarbanes-Oxley Act of 2002 is complex. Failure to comply in a timely manner could adversely affect investor confidence and our stock price.

Rules adopted by the SEC pursuant to Section 404 of the Sarbanes-Oxley Act of 2002 require us to perform an annual assessment of our internal controls over financial reporting and certify the effectiveness of those controls. The standards that must be met for management to assess the internal controls over financial reporting now in effect are complex, costly and require significant documentation, testing and possible remediation to meet the detailed standards. We may encounter problems or delays in completing activities necessary to make an assessment of our internal controls over financial reporting. If we cannot perform the assessment or certify that our internal controls over financial reporting are effective investor confidence and share value may be negatively impacted.

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

We have not historically paid cash dividends on our common stock, and we do not plan to pay cash dividends on our common stock in the foreseeable future.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

None

ITEM 2. PROPERTIES

We have established our primary research facility in 8,215 square feet of leased office and laboratory space in Oceanside, California. Our lease for this facility expires in August 2016. The base rent as of December 31, 2012 was $8,338 per month. The facility has leasehold improvements which include cGMP (current Good Manufacturing Practices) level clean rooms designed for the derivation of clinical-grade stem cells and their differentiated derivatives, research laboratories for our stem cell differentiation studies and segregated rooms for biohazard control and containment of human donor tissue. The cGMP clean rooms and the associated quality systems provide a "pilot manufacturing laboratory" that we believe will be uniquely suited for the creation, culture and differentiation of parthenogenetic stem cells for early stage clinical trials. We believe that this facility is well suited to meet our research, development and pre-clinical and clinical therapeutic production needs. However, we will need larger cGMP manufacturing laboratories should any one of our therapeutic cells move to larger clinical trials or full-scale therapeutic manufacture. The monthly base rent will increase by 3% annually on the anniversary date of the agreement.

In addition to the primary research facility lease, we entered into a lease with S Real Estate Holding LLC to allow the Company to expand into new corporate offices located in Carlsbad, California. The new building is used for administrative purposes, but could also be used for research and development purposes if such space is needed in the future. The lease initially covered approximately 4,653 square feet, starting on March 1, 2011 and was amended to cover approximately 8,199 square feet effective July 1, 2011. The lease expires on February 29, 2016, subject to the Company's right to extend the term for up to five additional years. The Company began paying rent at an initial rate of $5,118 per month and the rate was amended to $9,018 effective July 1, 2011. The base rent as of December 31, 2012 was $9,289 per month. The monthly base rent will increase by 3% annually on the anniversary date of the agreement. The Company is also obligated to pay a portion of the utilities for the building and increases in property tax and insurance.

During 2010 we utilized a 3,240 square foot laboratory in Walkersville, Maryland. Our lease for this facility expired in March 2011, and we moved into a new manufacturing facility in Frederick, Maryland which we use for laboratory and administration purposes. The base rent as of December 31, 2012 was $11,306. The initial term of the lease ends in December 2015 and there is an option for an additional five years. The laboratory is being used to develop and manufacture our research products and the administration facility will be used for sales and marketing and general administration purposes. Our manufacturing laboratory space has clean rooms and is fitted with the necessary water purification, refrigeration, labeling equipment and standard manufacturing equipment to manufacture, package, store, and distribute media products. There is also a quality control and cell culture laboratory outfitted with the necessary cell isolation equipment, incubators, microscopes and standard cell culture equipment necessary to isolate and culture cells and conduct quality control tests to produce superior cell culture products.

ITEM 3. LEGAL PROCEEDINGS.

None.

ITEM 4. MINE SAFETY DISCLOSURES.

Not applicable.

PART II

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

Market Information

Our common stock is approved for quotation on the OTC QB under the trading symbol "ISCO". The OTC QB is a regulated quotation service that displays real-time quotes, last-sale prices and volume information in over-the-counter equity securities. The OTC QB securities are traded by a community of market makers that enter quotes and trade reports. This market is limited in comparison to an exchange and any prices quoted may not be a reliable indication of the value of our common stock.

As of March 15, 2013, we had 111,713,815 shares of common stock outstanding, and approximately 647 holders of record of our common stock, and we had 7,300,043 shares of preferred stock outstanding, and six holders of record of our preferred stock, with 5,300,043 shares of preferred stock being convertible into 38,973,200 shares of common stock.

The quotations reflect inter-dealer prices, without retail mark-up, mark-down or commission and may not reflect actual transactions. The high and low sales prices of our common stock, as reported by OTC QB for each quarter during fiscal years 2012 and 2011, are reported below:

	Market Price	
	High	Low
Fiscal Year 2012		
First Quarter	$0.68	$0.38
Second Quarter	$0.55	$0.21
Third Quarter	$0.40	$0.22
Fourth Quarter	$0.29	$0.16
Fiscal Year 2011		
First Quarter	$2.20	$1.24
Second Quarter	$1.34	$0.82
Third Quarter	$1.08	$0.67
Fourth Quarter	$0.84	$0.37

Dividends

Our Board of Directors determines any payment of dividends. We have never declared or paid cash dividends on our common stock. We do not expect to authorize the payment of cash dividends on our shares of common stock in the foreseeable future. Any future decision with respect to dividends will depend on our future earnings, operations, capital requirements and availability, restrictions in future financing agreements and other business and financial considerations.

Recent Sales of Unregistered Securities

See Note 11, Subsequent Events to the consolidated financial statements.

Equity Compensation Plan Information

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
Equity compensation plans approved by security holders:			
2006 Equity Participation Plan	5,742,050	$ 0.86	8,384,130
2010 Equity Participation Plan	9,380,850	$ 1.38	8,610,850
Equity compensation plans not approved by security holders (1)	8,254,232	$ 0.65	—
Total	23,377,132		16,994,980

(1) Represents stock options granted to senior management and board members not under any of the Company's Equity Participation Plans. The options were granted with different vesting terms, but will expire no later than 10 years from the date of grant.

ITEM 6. SELECTED FINANCIAL DATA

Not required.

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

The following discussion of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes and other financial information included elsewhere in this Annual Report on Form 10-K. The discussion contains forward-looking statements based upon current expectations that involve risks and uncertainties, such as our plans, expectations and intentions. Our actual results may differ significantly from management's expectations. This discussion should not be construed to imply that the results discussed herein will necessarily continue into the future, or that any conclusion reached herein will necessarily be indicative of actual operating results in the future. Such discussion represents only the best present assessment by our management.

Business Overview

We are a development-stage biotechnology company focused on our principal operations of therapeutic and biomedical product development with multiple long-term therapeutic opportunities and two revenue-generating businesses offering potential for increased future revenue.

To date, the Company has generated limited incidental revenues to support its core therapeutic research and development efforts.

Our products are based on multi-decade experience with human cell culture and a proprietary type of pluripotent stem cells, human parthenogenetic stem cells ("hpSCs"). Our hpSCs are comparable to human embryonic stem cells ("hESCs") in that they have the potential to be differentiated into many different cells in the human body. However, the derivation of hpSCs does not require the use of fertilized eggs or the destruction of viable human embryos and they offer the potential for creation of immune-matched cells and tissues that are less likely to be rejected following transplantation into people across various ethnic groups. We have facilities and manufacturing protocols that comply with the requirements of the US Food and Drug Administration ("FDA") and other regulatory authorities.

Market Opportunity and Growth Strategy

Therapeutic Market – Clinical Applications of hpSCs for Disease Treatment. With respect to therapeutic research and product candidates, we focus on applications where cell and tissue therapy is already proven but where there is an insufficient supply of safe and functional cells or tissue. We believe that the most promising potential clinical applications of our technology are: 1) Parkinson's disease; 2) metabolic/liver diseases; and 3) corneal blindness. Using our proprietary technologies and know-how, we are creating

neuronal cells from hpSCs as a potential treatment of PD, liver cells from hpSCs that may be able to treat a variety of hepatic and metabolic liver diseases and corneal like structures from hpSCs that may be suitable for cornea transplantation and corneal healing in humans.

Cosmeceutical Market – Skin Care Products. Our wholly-owned subsidiary Lifeline Skin Care, Inc. ("LSC") develops, manufactures and markets cosmetic skin care products using an extract derived from our pluripotent stem cells. These proprietary products include a Defensive Day Serum, Recovery Night Serum and Firming Eye Complex, all of which include our patented stem cell extract and are regulated as cosmetics. LSC's products are regulated as cosmetics. Lifeline Skin Care products are sold nationally and internationally through a branded website; through professional channels (including dermatologists; plastic surgeons; medical, day and resort spas,) and distributors.

Biomedical Market – Primary Human Cell Research Products. Our wholly-owned subsidiary Lifeline Cell Technology, LLC ("LCT") develops, manufactures and commercializes over 130 human cell culture products, including frozen human "primary" cells and the reagents (called "media") needed to grow, maintain and differentiate the cells needed for human cell systems in the research market. LCT's scientists have used a technology called basal medium optimization to systematically produce optimized products designed to culture specific human cell types and to elicit specific cellular behaviors. These techniques also produce products that do not contain non-human animal proteins, a feature desirable to the research and therapeutic markets. Each LCT cell product is quality tested for the expression of specific markers (to assure the cells are the correct type), proliferation rate, viability, morphology and absence of pathogens. Each cell system also contains associated donor information and all informed consent requirements are strictly followed. LCT's research products are marketed and sold by its internal sales force, OEM partners and LCT brand distributors in Europe and Asia.

While we have continued to expand our sales and marketing efforts in order to increase revenue, to date we have generated limited revenue to support our core therapeutic research and development efforts.

We were originally incorporated in Delaware on June 7, 2005 as BTHC III, Inc. to effect the reincorporation of BTHC III, LLC, a Texas limited liability company, mandated by a plan of reorganization. On December 28, 2006, pursuant to a Share Exchange Agreement, BTHC III, Inc. issued 33,156,502 shares of common stock, representing approximately 93.7% of the common stock outstanding immediately after the transaction, to the shareholders of International Stem Cell Corporation, a California corporation ("ISC California"), in exchange for all outstanding stock of ISC California. This transaction is being accounted for as a "reverse merger" for accounting purposes. Consequently, the assets and liabilities and the historical operations that are reflected in our financial statements are those of ISC California.

ISC California was incorporated in California in June 2006 for the purpose of restructuring the business of Lifeline Cell Technology, LLC, which was organized in California in August 2001. As a result of the restructuring, LCT became wholly-owned by ISC California, which in turn is wholly-owned by us. LCT is responsible for developing, manufacturing and distributing all of its products.

Lifeline Skin Care, Inc. was formed in the State of California on June 5, 2009 and is a wholly-owned subsidiary of ISC California. LSC creates cosmetic skin care products using an ingredient derived from our human cell technologies. LSC currently sells its products globally through a branded website, domestic and international distributors, physicians and professional spas.

Results of Operations

Year Ended December 31, 2012 Compared to Year Ended December 31, 2011

Revenues

We are considered a development stage company, and as such our revenues are limited and not predictable. Revenue for the year ended December 31, 2012, totaled $4.57 million, compared to $4.53 million in 2011. LCT contributed $2.38 million or 52% of total revenue in 2012, compared to $2.08 million or 47% of total revenue in 2011. The increase of $296,000 or 14% in LCT's revenue for 2012 was driven primarily by higher sales to OEM customers and international distributors. LSC's revenue of $2.19 million in 2012 accounted for 48% of total revenue, compared to $2.45 million or 53% of total revenue in 2011. Revenue decreased by $261,000 or 11% due to higher discounts granted as part of our strategic efforts to expand and diversify sources of revenue.

Cost of Sales

Cost of sales for the year ended December 31, 2012 was $1.27 million or 28% of revenue, compared to $1.62 million or 36% of revenue in 2011. The favorable reduction in cost of sales as a percentage of revenue in 2012 is primarily attributable to improvements in the manufacturing and supply chain management pertaining to both LSC and LCT.

Cost of sales reflects direct costs including salaries and benefits related to manufacturing, third party manufacturing costs, materials, general laboratory supplies and an allocation of overhead. We aim to continue refining our manufacturing processes and supply chain management to further improve the cost of sales as a percentage of revenue for both LCT and LSC.

Research and Development ("R&D")

Research and development expenses were $3.60 million for the year ended December 31, 2012, compared to $4.43 million in 2011. The decrease of approximately $835,000 or 19% in R&D expense is principally due to reductions in stock-based compensation expense of $434,000, consulting expenses of $368,000 associated with various research projects, laboratory supplies and laboratory facility-related expenses of $197,000, personnel-related spending of $137,000, and travel expenses of $25,000. The decrease was partially offset by higher stem cell line research and testing expenses of $323,000.

R&D is focused on the development of treatments for Parkinson's disease (PD), metabolic liver diseases (such as Crigler-Najjar syndrome, (CNS) and Alpha 1-antitrypsin deficiency (A1AD)), diseases of the eye and the creation of new cGMP grade human parthenogenetic stem cell lines. These projects are long-term investments that involve developing both new stem cell lines and new differentiation techniques that can provide higher purity populations of functional cells. We do not expect these projects to provide near-term revenue, although we have published milestones including the initiation of a non-human primate (NHP) PD study in the fourth quarter of 2012, the release of pre-clinical rodent and NHP PD study data in the first quarter of 2013 and the initiation of a Gunn rat rodent study to look at CNS, a rare but sometimes fatal inherited liver disease.

Research and development expenses are expensed as they are incurred, and are accounted for on a project by project basis. However much of our research has potential applicability to each of our projects.

Selling and Marketing Expense

Marketing expenses for the year ended December 31, 2012 amounted to $2.07 million, reflecting an increase of approximately $589,000 or 40%, as compared to $1.48 million in 2011. The rise in spending was primarily driven by increases in advertising and marketing expense of approximately $287,000, consulting expense of $244,000, logistics and selling-related expenses of $239,000, e-commerce website support expense of $112,000, employee-related spending of $64,000, and commission paid to various sales consultants of $43,000. The increase was partially offset by a reduction of $272,000 in sales commission paid to a consultant who promoted, marketed, and sold skin care products through various proprietary mailings and a reduction in employee stock-based compensation of $116,000.

Regarding the marketing arrangement with the abovementioned consultant who promoted, marketed, and sold skin care products, prior and up to June 30, 2011, we incurred a 40% marketing fee on net profits generated from these proprietary mailings. In June 30, 2011, we renegotiated and formalized this arrangement in a marketing agreement, which specifies a reduced 20% marketing fee on net revenues generated from these proprietary mailings. Subsequently in July 2012, we renegotiated the commission structure to reflect slightly lower rates, 18% on net revenues derived from direct sales and 9% on net revenues derived from referral sales. For the month of December 2012, the commission rate was temporarily increased to 25% on net revenues derived from direct sales on qualifying volume of orders. For the years ended December 31, 2012 and 2011, we recorded $149,000 and $430,000, respectively, as marketing expenses related to this agreement.

General and Administrative Expenses

General and administrative expenses for the year ended December 31, 2012 were $7.44 million, reflecting a decrease of $916,000 or 11%, compared to $8.36 million in 2011. The decrease was largely attributable to a more streamlined operating cost structure including reductions in stock-based compensation expense of $873,000, corporate support expenses of $343,000, personnel-related spending resulting from lower headcount of $266,000, and consulting expense of $123,000. The decrease was partially offset by an increase in legal fees of $343,000 pertaining to capital raising and corporate matters, an increase in impairment of intangible assets totaling $187,000, an increase in professional accounting fees and corporate governance expenses of $92,000, and an increase in rent expense of $71,000.

Other Income/Expense

Other expense was $20,000 for the year ended December 31, 2012. In 2011, we recorded other income of $2.18 million reflecting the substantial decrease in the fair value of our warrant liabilities which expired on February 14, 2012.

Liquidity and Capital Resources

As of December 31, 2012, our cash and cash equivalents totaled $654,000, compared to $1.34 million as of December 31, 2011. Working capital at December 31, 2012, totaled $395,000, compared to $905,000 at December 31, 2011.

Operating Cash Flows

Net cash used in operating activities was $6.69 million for the year ended December 31, 2012, compared to $6.96 million in 2011. The primary factor contributing to the variability in the reported cash flow amounts relates to the lower net loss after non-cash adjustments totaling $6.70 million in 2012, compared to $7.00 million in 2011.

Investing Cash Flows

Net cash used in investing activities was $786,000 for the year ended December 31, 2012, compared to $941,000 in 2011. Patent related spending approximated $596,000 during 2012. In addition, purchases of property and equipment totaling approximately $197,000 in 2012 consisted primarily of laboratory equipment, software, leasehold improvements and computer equipment.

Net cash used in investing activities was $941,000 for the year ended December 31, 2011. Purchases of property and equipment of $565,000 in 2011 consisted primarily of laboratory equipment, furniture, computer equipment and leasehold improvements related to new corporate offices. In addition, we made payments for patent licenses of $376,000 during 2011.

Financing Cash Flows

Net cash provided by financing activities was $6.79 million for the year ended December 31, 2012, compared to $3.46 million in 2011. We received approximately $4.94 million, net of stock issuance costs, from the issuance of five million shares of Series G Preferred Stock in 2012. For further discussion, see Note 6, Capital Stock, Series G Preferred Stock. In addition, we raised $2.09 million from the issuance of 5,000,000 shares of common stock to Aspire Capital Group and paid dividends of $237,000 to our preferred stockholders.

Net cash provided by financing activities was $3.46 million for the year ended December 31, 2011. We issued 4.0 million shares of common stock to Aspire Capital Group for approximately $3.36 million. In addition, we raised $532,000 from warrants and options exercised and paid dividends of $430,000 to our preferred stockholders.

On October 12, 2012, the Company and the holders of all of the outstanding shares of Series D and Series G Preferred Stock entered into a Waiver Agreement (the "Waiver Agreement") pursuant to which such holders irrevocably waived their right to receive any and all accrued but unpaid dividends and interest thereon on or after September 30, 2012 on the Series D and Series G Preferred Stock. Accordingly, we reversed all previously accreted and recorded dividends related to Series G Preferred Stock totaling $93,000. Under the Waiver Agreement, the holders of Series D and Series G Preferred Stock are restricted from transferring any shares of Series D or Series G Preferred Stock unless the transferee agrees to be bound by the Waiver Agreement.

Management is currently evaluating various financing sources and options to raise working capital to help fund our current research and development programs and operations. We will need to obtain significant additional capital from sources including equity and/or debt financings, license arrangements, grants and/or collaborative research arrangements to sustain our operations and develop products. Thereafter, we will need to raise additional working capital. Unless we obtain additional financing, we do not have sufficient cash on hand to operate for 12 months from the consolidated balance sheet date. The timing and degree of any future capital requirements will depend on many factors, including:

- the accuracy of the assumptions underlying our estimates for capital needs in 2013 and beyond;
- the extent that revenues from sales of LSC and LCT products cover the related costs and provide capital;
- scientific progress in our research and development programs;
- the magnitude and scope of our research and development programs and our ability to establish, enforce and maintain strategic arrangements for research, development, clinical testing, manufacturing and marketing;
- our progress with preclinical development and clinical trials;
- the time and costs involved in obtaining regulatory approvals;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims; and
- the number and type of product candidates that we pursue.

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 stockholders. Additional debt financing may be expensive and require us to pledge all or a substantial portion of our assets. 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 product initiatives.

We continue to operate as a development stage entity and as such have accumulated losses from inception and expect to incur additional losses in the near future. We need to raise additional working capital. The timing and degree of any future capital requirements will depend on many factors. For the year ended December 31, 2012 our average burn rate was approximately $580,000 per month, excluding capital expenditures and patent costs averaging $70,000 per month. There can be no assurance that we will be successful in maintaining our normal operating cash flow and that the timing of our capital expenditures will result in cash flow sufficient to sustain our operations through 2013. Based on the above, there is substantial doubt about our ability to continue as a

going concern. The consolidated financial statements were prepared assuming that we will continue to operate as a going concern. The consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of this uncertainty. Management's plans in regard to these matters are focused on managing our cash flow, the proper timing of our capital expenditures, and raising additional capital or financing in the future. In March 2012, to obtain funding for working capital purposes, the Company sold 5,000,000 shares of Series G Preferred Stock raising $5 million, and during the first quarter of 2012 sold 5,000,000 shares of common stock to Aspire Capital Fund, LLC, for $2.1 million.

We do not currently have any obligations for milestone payments under any of our licensed patents other than the minimum royalty payment of $75,000 due in two installments per year to Advanced Cell Technology pursuant to the amended UMass IP license agreement. No licenses are terminable at will by the licensor. For further discussion of our patents, see Note 4 to our consolidated financial statements.

Under our Common Stock Purchase Agreement with Aspire Capital Fund, LLC ("Aspire Capital"), we may sell from time to time up to an aggregate of $25.0 million of shares of common stock through approximately January 2014. From commencement through December 31, 2012, we sold a total of 9,333,333 shares of common stock to Aspire Capital for an aggregate of $5,942,000. In addition, in February 2013, we sold an additional 1,200,000 shares to Aspire Capital for an aggregate of $264,000.

In January 2013, to obtain funding for working capital purposes, we entered into a Securities Purchase Agreement (the "January 2013 Purchase Agreement") and raised $2,025,000 through the sale of shares of our common stock and warrants to purchase additional shares of common stock. In March 2013, to obtain further funding for working capital purposes, we entered into another Securities Purchase Agreement (the "March 2013 Purchase Agreement") and raised $1,000,000 through the sale of shares of our common stock and warrants to purchase additional shares of common stock. For further discussion, see Note 11, Subsequent Events.

We have filed a registration statement with the SEC that, following effectiveness, would allow us to raise up to $15 million from the sale of common stock and warrants. However, this is a "best efforts" offering and we cannot predict the timing or amount of any funds that we may actually receive.

Off-Balance Sheet Arrangements

As of December 31, 2012, we did not have any off-balance sheet arrangements.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and related disclosures. On an on-going basis, we evaluate our estimates and assumptions, including those related to revenue recognition, allowances for accounts receivable, inventories, intangible assets, warrant liabilities, stock-based compensation and income taxes. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions and conditions.

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

Development Stage Company

We are a development stage entity with no revenue generated from our principal operations in therapeutic research and development efforts. To date, we have generated limited and unpredictable incidental revenues to support our core therapeutic research and development efforts.

Inventories

We account for inventory using the first-in, first-out (FIFO) method for our Lifeline Skin Care products, Lifeline Cell Technology cell culture media and reagents, and specific identification method for our Lifeline Cell Technology products. We state our inventory balances at the lower of cost or market. Lab supplies used in the research and development process are expensed as consumed. Inventory is reviewed periodically for product expiration and obsolescence and is adjusted accordingly.

Property and Equipment

We record property and equipment at cost. The provision for depreciation and amortization is computed using the straight-line method over the estimated useful lives of the assets, generally over five years. The costs of major remodeling and leasehold improvements are capitalized and depreciated over the shorter of the remaining term of the lease or the life of the asset.

Intangible Assets

Intangible assets consist of acquired research and development rights used in research and development, and capitalized legal fees related to the acquisition, filing, maintenance, and defense of patents. Patents and patent licenses are recorded at cost and are amortized on a straight-line basis over the shorter of the lives of the underlying patents or the useful life of the intangible asset, generally 15 years. Intangible asset amortization expenses are included in research and development expenses.

Long-Lived Asset Impairment

We review long-lived assets for impairment when events or changes in business conditions indicate that their carrying value may not be recovered, at least annually. We consider assets to be impaired and write them down to fair value if expected associated undiscounted cash flows are less than the carrying amounts. Fair value is the present value of the associated cash flows. Due to the numerous variables associated with our judgments and assumptions relating to the carrying value of our intangible assets and the effects of changes in circumstances affecting these valuations, both the precision and reliability of the resulting estimates are subject to uncertainty. As additional information becomes known, we may change our estimate, in which case the likelihood of a material change in our reported results would increase.

Revenue Recognition

We recognize revenue when all four of the following criteria are met: (i) persuasive evidence that an arrangement exists; (ii) delivery of the products and/or services has occurred; (iii) the selling price is fixed or determinable; and (iv) collectability is reasonably assured. Should changes in conditions cause management to determine these criteria are not met for certain future transactions, revenues recognized for any reporting period could be adversely impacted.

Cost of Sales

Cost of sales consists primarily of salaries and benefits associated with employee efforts expended directly on the production of the Company's products and include related direct materials, general laboratory supplies and allocation of overhead. Certain of the agreements under which the Company has licensed technology will require the payment of royalties based on the sale of its future products. Such royalties will be recorded as a component of cost of sales. Additionally, the amortization of license fees or milestone payments related to developed technologies used in the Company's products will be classified as a component of cost of sales to the extent such payments become due in the future. Cost of sales included salaries and benefits related to manufacturing, third party manufacturing costs, raw materials, general laboratory supplies and an allocation of overhead.

Research and Development Costs

Research and development costs, which are expensed as incurred, are primarily comprised of salaries and benefits associated with research and development personnel, overhead and occupancy, contract services, and amortization of license costs for technology used in research and development with alternative future uses.

Registration Payment Arrangements

We are required to separately recognize and measure registration payment arrangements, whether issued as a separate agreement or included as a provision of a financial instrument or other agreement. Such payments include penalties for failure to effect a registration of securities.

Stock-Based Compensation

We are required to measure and recognize compensation expense for all stock-based payment awards made to employees and consultants based on estimated fair value. We estimate the fair value of stock options granted using the Black-Scholes option-pricing model.

The determination of fair value of stock-based awards using the Black-Scholes option-pricing model requires the use of certain estimates and highly judgmental assumptions that affect the amount of stock-based compensation expense recognized in our Consolidated Statements of Operations. These include estimates of the expected volatility of our stock price, expected option life, expected dividends and the risk-free interest rate. Estimated volatility is a measure of the amount by which our stock price is expected to fluctuate each year during the expected life of the award. The expected option life is calculated using the mid-point method as

prescribed by accounting guidance for stock-based compensation. We determined expected dividend yield to be 0% given that we have never declared or paid any cash dividends on our common stock, and we currently do not anticipate paying such cash dividends. The risk-free interest rate is based upon U.S. Treasury securities with remaining terms similar to the expected term of the share-based awards. If any of the assumptions used in the Black-Scholes model change significantly, stock-based compensation expense may differ materially from what we have recorded in the current period.

Income Taxes

We account for income taxes in accordance with provisions which set forth an asset and liability approach that requires the recognition of deferred tax assets and deferred tax liabilities for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. Valuation allowances are established when necessary to reduce deferred tax assets to the amount that is more likely than not expected to be realized. In making such a determination, a review of all available positive and negative evidence must be considered, including scheduled reversal of deferred tax liabilities, projected future taxable income, tax planning strategies, and recent financial performance.

Concentration of Credit Risk

We maintain our cash and cash equivalents in banks located primarily in the United States. Beginning December 31, 2010, through December 31, 2012, all noninterest-bearing transaction accounts are fully insured by the Federal Deposit Insurance Corporation ("FDIC"), regardless of the balance of the account, at all FDIC-insured institutions, upon the implementation of section 343 of the Dodd-Frank Wall Street Reform and Consumer Protection Act that provides for unlimited insurance coverage of noninterest-bearing transaction accounts. After December 31, 2012, our accounts are guaranteed by the FDIC up to $250,000 per financial institution.

Income (Loss) Per Common Share

The computation of net loss per common share is based on the weighted average number of shares outstanding during each period. The computation of diluted earnings per common share is based on the weighted average number of shares outstanding during the period plus the common stock equivalents, which would arise from the exercise of stock options and warrants outstanding using the treasury stock method and the average market price per share during the period.

Recent Accounting Pronouncements

There were no new accounting pronouncements during the year ended December 31, 2012, as compared to the recent accounting pronouncements described in the Annual Report on Form 10-K for the fiscal year ended December 31, 2011, that are of significance, or potential significance, to the Company.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Not required.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

The information required by this Item is set forth in our Consolidated Financial Statements and Notes thereto beginning at page F-1 of this Annual Report on Form 10-K.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

None.

ITEM 9A. CONTROLS AND PROCEDURES.

Disclosure Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(e) and 15d-15(e) under the Exchange Act, the Company, with the participation of management, including our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in such rules) as of the end of the period covered by this report. Based on this evaluation, our management concluded that, at December 31, 2012, our disclosure controls and procedures were effective.

Disclosure controls and procedures are controls and other procedures that are designed to ensure that information required to be disclosed in our reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in our reports filed under the Exchange Act is accumulated and communicated to our management, including our chief executive officer and chief financial officer, or persons performing similar functions, as appropriate, to allow timely decisions regarding required disclosure.

Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Changes in Internal Control Over Financial Reporting

There have been no changes in our internal control over financial reporting during the most recent quarter ended December 31, 2012 that our certifying officers concluded materially affected, or are reasonably likely to materially affect our internal control over financial reporting.

Management Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control system is 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 in the United States ("GAAP") and includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and
- 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 its financial statements.

Because of its inherent limitations, a system of internal control over financial reporting can provide only reasonable assurance and may not prevent or detect misstatements. Further, because of changes in conditions, effectiveness of internal controls over financial reporting may vary over time. Our system contains self-monitoring mechanisms, and actions are taken to correct deficiencies as they are identified.

Our management conducted an evaluation of the effectiveness of the system of 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 the above evaluation, the Company's chief executive officer and chief financial officer have concluded that as of December 31, 2012, the Company's internal control over financial reporting were effective. Nonetheless, it is important to acknowledge that due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, even systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. 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.

ITEM 9B. OTHER INFORMATION.

None.

PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item regarding our directors is incorporated by reference to the information in our definitive Proxy Statement (the "Proxy Statement") to be filed with the Securities and Exchange Commission in connection with our 2013 Annual Meeting of Stockholders under the heading "Election of Directors." The information required by this item regarding compliance with Section 16a of the Securities and Exchange Act of 1934, as amended, is incorporated by reference to the information in the Proxy Statement under the caption "Section 16a Beneficial Ownership Reporting Compliance." The information required by this item regarding our Code of Conduct and Ethics in incorporated by reference to the information in the Proxy Statement under the caption "Code of Conduct and Ethics." The information required by this item regarding our Governance Committee and Audit Committee is incorporated by reference to the information in the Proxy Statement under the caption "Corporate Governance."

As of December 31, 2012, our executive officers were as follows:

Name	Principal Occupation	Age
Andrey Semechkin	Co-Chairman and Chief Executive Officer	53
Linh T. Nguyen	Chief Financial Officer and Secretary	44
John Simon Craw	Executive Vice President of Business Development	50

*Andrey Semechkin***,** Ph.D., Co-Chairman and CEO, has been a Director of the Company since December 2008. Dr. Semechkin is a specialist in system analysis, strategic planning and corporate management. He is a member of the Russian Academy of Sciences and has been Deputy Director of Institute of System Analysis since 2004. Professor Semechkin was awarded the Russian Government Award in Science and Technology in 2006 and has written several scientific books. He has over 20 years experience creating and managing businesses across different industries and scientific sectors.

Linh T. Nguyen, Chief Financial Officer and Secretary, has over 18 years of experience in financial management. She served as chief financial officer of International Lottery & Totalizator Systems (ILTS), a publicly-traded global software and system developer of lottery and optical scan voting systems, where she was a member of the executive leadership team executing strategic initiatives, formulating policies and assessing financial viability of business opportunities. During her tenure at ILTS, Ms. Nguyen held various other roles, including director of finance and finance manager. Ms. Nguyen earned a Master of Science in Executive Leadership from University of San Diego and B.S. in Business Administration with a concentration in Accounting, from California State University, San Marcos.

John Simon Craw, Ph.D., Executive Vice President of Business Development, obtained his Ph.D. in Chemistry from the University of Manchester and began his career at the University of Rio de Janeiro followed by positions at the University of Sydney and the University of Manchester. He has over 18 years experience in research and development as well as operations and information technology at Merck, Astra-Zeneca and Novartis and as head of R&D Informatics and Regulatory Operations at ACADIA Pharmaceuticals. Dr. Craw's has numerous scientific publications, has been a guest on numerous radio and television programs including National Public Radio and Fox News, and is a frequent speaker at international conferences.

Item 11. EXECUTIVE COMPENSATION

The information required by this item is incorporated by reference to the information in the Proxy Statement under the caption "Executive Compensation."

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item is incorporated by reference to the information in the Proxy Statement under the captions "Stock Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" and "Equity Compensation Plan Information."

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

The information required by this item is incorporated by reference to the information in the Proxy Statement under the captions "Related Person Transactions" and "Corporate Governance – Director Independence."

Item 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this item is incorporated by reference to the information in the Proxy Statement under the caption "Ratification of Appointment of Independent Auditors – Principal Accounting Fees and Services."

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) Documents filed as part of this report.

1. Financial Statements:

2. List of all Financial Statement schedules.

All other schedules are omitted because they are not applicable or the required information is shown in the Financial Statements or notes thereto.

3. List of Exhibits required by Item 601 of Regulation S-K. See part (b) below.

(b) Exhibits:

Exhibit Number	Description
3.1	Certificate of Incorporation (incorporated by reference to Exhibit 3.4 of the Registrant's Form 10-SB filed on April 4, 2006, File No. 000-51891).
3.2	Certificate of Amendment of Certificate of Incorporation (incorporated by reference to Exhibit 3.1 of the Registrant's Preliminary Information Statement on Form 14C filed on December 29, 2006, File No. 000-51891).
3.3	Certificate of Amendment of Certificate of Incorporation (incorporated by reference to Exhibit 3.1 of the Registrant's Form 8-K filed on June 4, 2012, File No. 000-51891).
3.4	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.1 of the Registrant's Form 8-K filed on May 6, 2011, File No. 000-51891).
4.1	Form of Specimen Common Stock Certificate. (incorporated by reference to Exhibit 4.1 of the Registrant's Form 10-KSB filed on April 9, 2007, File No. 000-51891).
4.2	Certification of Designation of Series B Preferred Stock (incorporated by reference to Exhibit 4.1 of the Registrant's Form 8-K filed on May 12, 2008, File No. 000-51891).
4.3	Certification of Designation of Series C Preferred Stock (incorporated by reference to Exhibit 10.2 of the Registrant's Form 8-K filed on August 21, 2008, File No. 000-51891).
4.4	Certification of Designation of Series D Preferred Stock (incorporated by reference to Exhibit 10.2 of the Registrant's Form 8-K filed on January 5, 2009, File No. 000-51891).
4.5	Certificate of Designation of Series G Preferred Stock (incorporated by reference to Exhibit 3.1 of the Registrant's Form 8-K filed on March 14, 2012, File No. 000-51891).
4.6	Warrant Certificate for warrants in connection with Series B Preferred Stock Purchase (incorporated by reference to Exhibit 10.2 of the Registrant's Form 8-K filed on May 12, 2008, File No. 000-51891).
10.9*	International Stem Cell Corporation 2006 Equity Participation Plan (incorporated by reference to Exhibit 10.15 of the Registrant's Form 8-K filed on December 29, 2006, File No. 000-51891).
10.12	Common Stock Purchase Warrant issued with Multiple Advance Convertible Note (incorporated by reference to Exhibit 10.2 of the Registrant's Form 8-K filed on August 18, 2008, File No. 000-51891).
10.13*	Employment Agreement with Andrey Semechkin (incorporated by reference to Exhibit 10.4 of the Registrant's Form 8-K filed on January 5, 2009, File No. 000-51891).

Exhibit Number	Description
10.14*	Employment Agreement with Ruslan Semechkin (incorporated by reference to Exhibit 10.5 of the Registrant's Form 8-K filed on January 5, 2009, File No. 000-51891).
10.16*	Amended and Restated Employment Agreement with Brian Lundstrom dated May 11, 2011 (incorporated by reference to Exhibit 10.1 of the Registrant's Form 8-K filed on May 13, 2011, File No. 000-51891).
10.17*	Employment offer letter with Kurt May dated June 9, 2011 (incorporated by reference to Exhibit 10.1 of the Registrant's Form 10-Q filed on November 14, 2011, File No. 000-51891).
10.18*	Employment Offer Letter with Linh Nguyen dated September 20, 2011 (incorporated by reference to Exhibit 10.1 of the Registrant's Form 8-K filed on September 27, 2011, File No. 000-51891).
10.19*	Form of Stock Option Agreement for stock options granted outside of the 2006 Equity Participation Plan (incorporated by reference to Exhibit 10.19 of the Registrant's Form 10-K filed on March 30, 2010, File No. 000-51891).
10.21	Common Stock Purchase Agreement, dated as of December 9, 2010, by and between the Company and Aspire Capital Fund, LLC (incorporated by reference to Exhibit 10.1 of the Registrant's Form 8-K filed on December 13, 2010, File No. 000-51891).
10.22	Registration Rights Agreement, dated as of December 9, 2010, by and between the Company and Aspire Capital Fund, LLC (incorporated by reference to Exhibit 10.2 of the Registrant's Form 8-K filed on December 13, 2010, File No. 000-51891).
10.23	Cell Culture Automation Agreement dated May 13, 2010 (incorporated by reference to Exhibit 10.1 of the Registrant's Form 8-K filed on May 19, 2010, File No. 000-51891).
10.26*	2010 Equity Participation Plan (incorporated by reference to Appendix A of the Registrant's Schedule 14A filed March 30, 2010, File No. 000-51891).
10.27	Standard Multi-Tenant Office Lease – Gross Agreement, dated as of February 19, 2011, by and between the Company and S Real Estate Holdings, LLC (incorporated by reference to Exhibit 10.1 of the Registrant's Form 8-K filed February 28, 2011, File No. 000-51891).
10.28	Series G Preferred Stock Purchase Agreement dated March 9, 2012 (incorporated by reference to Exhibit 10.1 of the Registrant's Form-8-K filed on March 15, 2012, File No. 000-51891).
10.29	Amended and Restated Investors Rights Agreement dated March 9, 2012 (incorporated by reference to Exhibit 10.2 of the Registrant's Form 8-K filed on March 15, 2012, File No. 000-51891).
10.30	Management Rights Letter dated March 9, 2012 (incorporated by reference to Exhibit 10.3 of the Registrant's Form 8-K filed on March 15, 2012, File No. 000-51891).
10.31*	Consulting Contract dated March 9, 2012, with Kenneth C. Aldrich (incorporated by reference to Exhibit 10.4 of the Registrant's Form 8-K filed on March 15, 2012, File No. 000-51891).
10.32*	Agreement to Provide Consulting Services dated March 9, 2012, with Kenneth C. Aldrich (incorporated by reference to Exhibit 10.5 of the Registrant's Form 8-K filed on March 15, 2012, File No. 000-51891).
10.33*	Agreement to Provide Consulting Services dated March 9, 2012, with Jeffrey D. Janus (incorporated by reference to Exhibit 10.6 of the Registrant's Form 8-K filed on March 15, 2012, File No. 000-51891).
10.34*	Consulting Agreement with James Berglund dated July 24, 2012 (incorporated by referenced to Exhibit 4.8 of the Registrant's Form 10-Q filed on November 8, 2012, File No. 000-51891).
10.35	Dividend Waiver Agreement dated October 12, 2012 (incorporated by reference to Exhibit 10.29 of the Registrant's Form S-1 filed on October 18, 2012, File No. 000-51891).
10.36	Securities Purchase Agreement dated January 22, 2013 (incorporated by reference to Exhibit 10.1 of the Registrant's Form 8-K filed on January 24, 2013, File No. 000-51891).
10.37	Form of Warrant Agreement for January 22, 2013 Purchase (incorporated by reference to Exhibit 10.2 of the Registrant's Form 8-K filed on January 24, 2013, File No. 000-51891).

Exhibit Number	Description
10.38	Amended and Restated License Agreement with Advanced Cell Technology, Inc. dated February 7, 2013 (ACT IP) (incorporated by reference to Exhibit 10.1 of the Registrant's Amendment to Form 8-K filed on February 14, 2013, File No. 000-51891)
10.39	Amended and Restated License Agreement with Advanced Cell Technology, Inc. (UMass IP) (incorporated by reference to Exhibit 10.3 of the Registrant's Amendment to Form 8-K filed on February 14, 2013, File No. 000-51891)
10.40	Amended and Restated License Agreement dated February 7, 2013 with Advanced Cell Technology, Inc. (Infigen IP) (incorporated by reference to Exhibit 10.2 of the Registrant's Amendment to Form 8-K filed on February 14, 2013, File No. 000-51891)
10.41	Securities Purchase Agreement dated March 12, 2013 (incorporated by reference by Exhibit 10.1 of the Registrant's Form 8-K filed March 14, 2013, File No. 000-51891).
10.42	Form of Common Stock Warrant Agreement for March 2013 Securities Purchase (incorporated by reference to Exhibit 10.2 of the Registrant's Form 8-K filed March 14, 2013, File No. 000-51891).
10.43	Amendment, effective July 1, 2011, to Standard Multi-Tenant Office Lease with S Real Estate Holdings LLC.
21.1	Subsidiaries of the Registrant (incorporated by reference to Exhibit 21.1 of the Registrant's Form S-1 filed on December 17, 2010, File No. 333-171233).
23.1	Consent of Mayer Hoffman McCann P.C.
23.2	Consent of Vasquez & Company LLP
31.1	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer.
31.2	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer.
32.1	Section 1350 Certification of Chief Executive Officer.
32.2	Section 1350 Certification of Chief Financial Officer.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation Linkbase
101.DEF	XBRL Taxonomy Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase
101.PRE	XBRL Taxonomy Extension Presentation Linkbase

* Indicates management contract or compensatory plan.
(c) Financial Statement Schedules. See Item 15(a) 2 above.

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SIGNATURES

In accordance with Section 13 or 15(d) of the Exchange Act, the registrant caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

INTERNATIONAL STEM CELL CORPORATION

By: /s/ Linh T. Nguyen
Name: **Linh T. Nguyen**
Title: **Chief Financial Officer**

Dated: March 25, 2013

In accordance with the Exchange Act, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature:	Capacity:	Date:
/S/ ANDREY SEMECHKIN **Andrey Semechkin**	Co-Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	March 25, 2013
/S/ LINH T. NGUYEN **Linh T. Nguyen**	Chief Financial Officer (Principal Financial and Accounting Officer)	March 25, 2013
/S/ RUSLAN SEMECHKIN **Ruslan Semechkin**	Vice President, R&D and Director	March 25, 2013
/S/ DONALD A. WRIGHT **Donald A. Wright**	Director	March 25, 2013
/S/ PAUL V. MAIER **Paul V. Maier**	Director	March 25, 2013
/S/ CHARLES J. CASAMENTO **Charles J. Casamento**	Director	March 25, 2013
/S/ JAMES BERGLUND **Jim Berglund**	Director	March 25, 2013

Consolidated Financial Statements
International Stem Cell Corporation and Subsidiaries
(A Development Stage Company)

Years Ended December 31, 2012 and 2011

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders

INTERNATIONAL STEM CELL CORPORATION AND SUBSIDIARIES

We have audited the accompanying consolidated balance sheets of International Stem Cell Corporation and Subsidiaries (a development stage company) ("the Company") as of December 31, 2012 and 2011, and the related consolidated statements of operations, changes in redeemable convertible preferred stock, members' deficit and stockholders' equity (deficit), and cash flows for the years then ended and for the period from inception (August 17, 2001) through 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 did not audit the consolidated financial statements of International Stem Cell Corporation and Subsidiaries for the period from inception to December 31, 2010. Such statements are included in the cumulative inception to December 31, 2012 totals of the consolidated statements of operations and cash flows and reflect total revenues, total expenses and net loss of 26%, 63% and 70%, respectively, of the related cumulative totals. Those statements were audited by other auditors whose report has been furnished to us and our opinion, insofar as it relates to amounts for the period from inception to December 31, 2010, included in those cumulative totals, is based solely upon the report of the other auditors.

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 audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. For the year ended December 31, 2012, the Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated 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, based on our audits and the report of other auditors, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of International Stem Cell Corporation and Subsidiaries as of December 31, 2012 and 2011, and the results of their operations and their cash flows for the years then ended, and for the period from inception (August 17, 2001) to December 31, 2012, in conformity with U.S. generally accepted accounting principles.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has incurred recurring operating losses and is dependent on additional financing to fund operations. These conditions raise substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are described in Note 1 to the consolidated financial statements. The consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of this uncertainty.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the effectiveness of International Stem Cell Corporation and Subsidiaries' internal control over financial reporting as of December 31, 2011, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated March 16, 2012, expressed an unqualified opinion thereon.

/s/ Mayer Hoffman McCann P.C.

MAYER HOFFMAN MCCANN P.C.
San Diego, California
March 25, 2013

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders

INTERNATIONAL STEM CELL CORPORATION AND SUBSIDIARIES

We have audited International Stem Cell Corporation and Subsidiaries' (a development stage company) ("the Company") internal control over financial reporting as of December 31, 2011, based on criteria established in Internal Control —Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company'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 of internal control over financial reporting 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 consolidated financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

In our opinion, International Stem Cell Corporation and Subsidiaries maintained, in all material respects, effective internal control over financial reporting as of December 31, 2011, based on the 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 sheet of International Stem Cell Corporation and Subsidiaries as of December 31, 2011, and the related consolidated statements of operations, members' deficit and stockholders' equity (deficit), and cash flows for the year then ended and for the period from inception (August 17, 2001) to December 31, 2011, and our report dated March 16, 2012 (which includes an explanatory paragraph relating to the uncertainty of the Company's ability to continue as a going concern) expressed an unqualified opinion on those consolidated financial statements.

/s/ Mayer Hoffman McCann P.C.
San Diego, California
March 16, 2012

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
International Stem Cell Corporation
(A Development Stage Company)
Oceanside, California

We have audited the accompanying consolidated statements of operations, members' deficit and stockholders' equity (deficit) and cash flows of International Stem Cell Corporation and subsidiaries (a development stage company) (the "Company") for the period from inception (August 17, 2001) through December 31, 2010. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements 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 the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit 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 audit provides a reasonable basis for our opinion.

As discussed in note 2 to the 2010 consolidated financial statements, the consolidated balance sheet, statement of operations, members' deficit and stockholders' equity (deficit) and cash flows for the year ended December 31, 2010 and for the period from inception (August 17, 2001) through December 31, 2010 have been restated.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the results of operations and cash flows of International Stem Cell Corporation and subsidiaries for the period from inception (August 17, 2001) through December 31, 2010, in conformity with accounting principles generally accepted in the United States of America.

/s/ Vasquez & Company LLP

Los Angeles, California
March 24, 2011 (except for notes 1, 2 and 10
to the 2010 consolidated financial statements,
as to which the date is June 22, 2011)

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International Stem Cell Corporation and Subsidiaries
(A Development Stage Company)
Consolidated Balance Sheets
(in thousands, except share data)

	December 31, 2012	December 31, 2011
Assets		
Cash and cash equivalents	$ 654	$ 1,337
Accounts receivable, net of allowance for doubtful accounts of $4 and $0 at December 31, 2012 and 2011, respectively	273	140
Inventory, net	1,199	1,268
Prepaid expenses and other current assets	456	274
Total current assets	2,582	3,019
Property and equipment, net	1,134	1,420
Intangible assets, net	1,634	1,282
Deposits and other assets	20	16
Total assets	$ 5,370	$ 5,737
Liabilities, Redeemable Preferred Stock and Stockholders' Equity (Deficit)		
Accounts payable	$ 969	$ 777
Accrued liabilities	730	752
Deferred revenue	233	189
Related party payable	5	108
Advances	250	250
Warrants to purchase common stock	—	38
Total current liabilities	2,187	2,114
Convertible Redeemable Series G Preferred stock, $0.001 par value, 5,000,000 shares and 0 were authorized, issued and outstanding at December 31, 2012 and 2011, respectively, liquidation preferences of $5,000 and $0 at December 31, 2012 and 2011, respectively	4,941	—
Commitments and contingencies		
Stockholders' Equity (Deficit)		
Series D Preferred stock, $0.001 par value, 50 shares authorized, 43 issued and outstanding at December 31, 2012 and 2011, liquidation preference of $4,320 at December 31, 2012 and 2011	—	—
Series A Preferred stock, $0.001 par value, 0 and 5,000,000 shares authorized at December 31, 2012 and 2011, respectively, 0 and 500,000 issued and outstanding at December 31, 2012 and 2011, respectively, liquidation preferences of $0 and $615 at December 31, 2012 and 2011, respectively	—	1
Series B Preferred stock, $0.001 par value, 5,000,000 shares authorized, 300,000 issued and outstanding at December 31, 2012 and 2011, respectively, liquidation preferences of $385 and $367 at December 31, 2012 and 2011, respectively	0	0
Series C Preferred stock, $0.001 par value, 3,000,000 shares authorized, 2,000,000 issued and outstanding at December 31, 2012 and 2011, respectively, liquidation preferences of $2,507 and $2,387 at December 31, 2012 and 2011, respectively	2	2
Common stock, $0.001 par value, 300,000,000 and 200,000,000 shares authorized at December 31, 2012 and 2011, respectively, 87,388,815 and 80,036,315 issued and outstanding at December 31, 2012 and 2011, respectively	87	80
Additional paid-in capital	69,945	63,995
Deficit accumulated during the development stage	(71,792)	(60,455)
Total stockholders' equity (deficit)	(1,758)	3,623
Total liabilities, redeemable preferred stock and stockholders' equity (deficit)	$ 5,370	$ 5,737

See accompanying notes to the consolidated financial statements.

International Stem Cell Corporation and Subsidiaries
(A Development Stage Company)
Consolidated Statements of Operations
(in thousands, except per share data)

	Year Ended December 31, 2012	Year Ended December 31, 2011	Inception (August 17, 2001) through December 31, 2012
Revenues			
Product sales	$ 4,567	$ 4,532	$ 12,198
Royalties and license	—	—	135
Total revenue	4,567	4,532	12,333
Development expenses			
Cost of sales	1,272	1,618	4,606
Research and development	3,599	4,434	21,893
Selling and marketing	2,065	1,475	5,939
General and administrative	7,444	8,360	39,128
Total development expenses	14,380	15,887	71,566
Loss from development activities	(9,813)	(11,355)	(59,233)
Other income (expense)			
Settlement with related company	—	—	(93)
Miscellaneous expense	(65)	(163)	(245)
Dividend income	—	1	94
Interest expense	—	—	(2,225)
Sublease income	7	11	316
Change in market value of warrants	38	2,335	(1,357)
Total other income (expense), net	(20)	2,184	(3,510)
Loss before income taxes	(9,833)	(9,171)	(62,743)
Provision for income taxes	—	—	7
Net loss	$ (9,833)	$ (9,171)	$ (62,750)
Deemed dividend on preferred stock	$ (1,375)	$ —	$ (1,375)
Dividends on preferred stock	$ (129)	$ (430)	$ (8,097)
Net loss attributable to common stockholders	$ (11,337)	$ (9,601)	$ (72,222)
Net loss per common share-basic and diluted	$ (0.13)	$ (0.12)	
Weighted average shares-basic and diluted	85,936	77,320	

See accompanying notes to the consolidated financial statements.

International Stem Cell Corporation and Subsidiaries
(A Development Stage Company)
Consolidated Statements of Changes in Redeemable Convertible Preferred Stock, Members' Deficit and Stockholders' Equity (Deficit)
From Inception to December 31, 2012
(in thousands)

	Convertible Redeemable Series G Preferred Stock		Common Stock		Convertible Preferred Stock												Note Subscription on Perpetual Preferred	Subscription Receivable on Common Stock	Additional Paid-in Capital	Deficit accumulated during the Development Stage	Total Stockholders' Equity (Deficit)	Members' Deficit
					Series A		Series B		Series C		Series D		Series E		Series F							
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount						
Balance at August 17, 2001	—	$ —	—	$ —	—	$ —	—	$ —	—	$ —	—	$ —	—	$ —	—	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Members contribution																						100
Net loss for the period from inception																						(141)
Balance at December 31, 2001																						(41)
Members contributions																						250
Net loss for the year ended																						(391)
Balance at December 31, 2002																						(182)
Members contributions																						195
Net loss for the year ended																						(519)
Balance at December 31, 2003																						(506)
Members contribution																						1,110
Net loss for the year ended																						(854)
Activity through December 31, 2004																						(250)
Members contributions																						780
Net loss for the year ended December 31, 2005																						(1,386)
Balance at December 31, 2005																						(856)
Members contribution																						250
Effect of the Reorganization Transactions			20,000	20															2,665	(3,291)	(606)	606
BTHC transactions			2,210	2															(2)		—	
Offering costs																			(2,778)		(2,778)	
Warrants issued for equity placement services																			1,231		1,231	
Warrants issued for services																			222		222	
Warrants issued with promissory note																			638		638	
Common stock issued for services			1,350	1															1,349		1,350	
Issuance of common stock			10,437	11															10,371		10,382	
Stock-based compensation																			842		842	
Net loss for the year ended December 31, 2006																				(6,584)	(6,584)	
Balance at December 31, 2006			33,997	$ 34	—	$ —	—	$ —	—	$ —	—	$ —	—	$ —	—	$ —	$ —	$ —	$ 14,538	$ (9,875)	$ 4,697	$ —

	Convertible Redeemable Series G Preferred Stock		Common Stock		Convertible Preferred Stock												Note Subscription on Perpetual Preferred	Subscription Receivable on Common Stock	Additional Paid-in Capital	Deficit accumulated during the Development Stage	Total Stockholders' Equity (Deficit)	Members' Deficit
					Series A		Series B		Series C		Series D		Series E		Series F							
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount						
Offering costs																			$ (382)		$ (382)	
Warrants issued for equity placement services																			169		169	
Issuance of common stock			1,370	1															1,369		1,370	
Warrants exercised			3	—															3		3	
Stock-based compensation																			427		427	
Net loss for the year ended December 31, 2007																				(6,072)	(6,072)	
Balance at December 31, 2007			35,370	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16,124	(15,947)	212	—
Issuance of Preferred Stock					1,000	1	550	1	2,000	2									4,546		4,550	
Warrants issued and beneficial conversion feature																			911		911	
Issuance of Common Stock for services			3,041	3															593		596	
Stock-based compensation																			735		735	
Deemed Dividend																			1,582	(1,582)	—	
Net loss for the year ended December 31, 2008																				(6,571)	(6,571)	
Balance at December 31, 2008			38,411	38	1,000	1	550	1	2,000	2	—	—	—	—	—	—	—	—	24,491	(24,100)	433	—
Issuance of Preferred Stock																			3,682		3,682	
Preferred Stock Subscription																					—	
Issuance of Common Stock																					—	
For services			1,208	1															941		942	
From conversion of preferred stock			3,727	4	(400)	—	(150)	(1)											(3)		—	
From conversion of debt			2,000	2															498		500	
From exercise of warrants			4,392	4													(2,700)		3,659		963	
From cashless exercise of warrants			3,510	4															279		283	
For cash			2,787	3															1,397		1,400	
Stock-based compensation																			410		410	
Warrants issued for services																			281		281	
Options issued for services																			106		106	
Deemed Dividend																			3,163	(4,032)	(869)	
Cumulative effect adjustment-warrant liabilities																			(1,704)	430	(1,274)	
Equity placement shares																			(250)		(250)	
Dividend on preferred stock																				(364)	(364)	
Net loss for the year ended December 31, 2009																	(9)			(8,504)	(8,513)	
Balance at December 31, 2009			56,035	56	600	1	400	—	2,000	2	—	—	—	—	—	—	(2,709)	—	36,950	(36,570)	(2,270)	$ —

	Convertible Redeemable Series G Preferred Stock		Common Stock		Convertible Preferred Stock												Note Subscription on Perpetual Preferred	Subscription Receivable on Common Stock	Additional Paid-in Capital	Deficit accumulated during the Develop-ment Stage	Total Stockholders' Equity (Deficit)	Members' Deficit
					Series A		Series B		Series C		Series D		Series E		Series F							
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount						
Preferred Stock Subscription															1	0						
Issuance of Common Stock																					—	
For services			749	1															1,084		1,085	
From conversion of preferred stock and options			800	1	(100)	—	(100)	—							(1)	—			(1)		—	
From conversion of debt																					—	
From exercise of warrants			5,063	5													(3,254)	(5)	4,747		1,493	
From cashless exercise of warrants and options			1,531	2															1,536		1,538	
For cash			10,593	10															10,181		10,190	
Stock-based compensation																			2,068		2,068	
Warrants issued for services																					—	
Options issued for services																					—	
Warrants reclassified to equity																			805		805	
Deemed dividend on preferred stock																				(1,037)	(1,037)	
Accrued and paid dividend on preferred stock																				(524)	(524)	
Swap notes Receivable and Perpetual																					—	
Preferred Stock																	5,963		(1,200)		4,763	
Net loss for the year ended																					—	
December 31, 2010																				(12,723)	(12,723)	
Balance at December 31, 2010			74,771	75	500	1	300	—	2,000	2	—	—	—	—	—	0	—	(5)	56,170	(50,854)	5,389	—
Issuance of common stock																						
For services			150	—															303		303	
From cashless exercise of warrants			55	—															26		26	
From exercise of options and warrants			1,060	1															526		527	
For cash			4,000	4															3,354		3,358	
Stock-based compensation																			3,541		3,541	
Warrants issued for services																			75		75	
Stock subscription																		5			5	
Accrued dividend on preferred stock																				(430)	(430)	
Net loss for the year ended December 31, 2011																				(9,171)	(9,171)	
Balance at December 31, 2011			80,036	$ 80	500	$ 1	300	$ —	2,000	$ 2	—	$ —	—	$ —	—	$ 0	$ —	$ —	$ 63,995	$ (60,455)	$ 3,623	$ —

See accompanying notes to the consolidated financial statements.

International Stem Cell Corporation and Subsidiaries
(A Development Stage Company)
Consolidated Statements of Changes in Redeemable Convertible Preferred Stock, Members' Deficit and Stockholders' Equity (Deficit)
From Inception to December 31, 2012
(in thousands)

	Convertible Redeemable Series G Preferred Stock		Common Stock		Convertible Preferred Stock												Note Subscription on Perpetual Preferred	Subscription Receivable on Common Stock	Additional Paid-in Capital	Deficit accumulated during the Development Stage	Total Stockholders' Equity (Deficit)	Members' Deficit
					Series A		Series B		Series C		Series D		Series E		Series F							
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount						
Issuance of convertible redeemable Series G preferred stock, net of issuance costs of $59	5,000	4,941																				
Beneficial conversion feature for Series G preferred stock		(1,375)																	1,375		1,375	
Issuance of common stock																						
From conversion of Series A preferred stock			2,000	2	(500)	(1)													(1)		—	
For cash			5,000	5															2,079		2,084	
For services			335	—															59		59	
From exercise of options			18	—															4		4	
Stock-based compensation																			2,361		2,361	
Warrants issued for services																			73		73	
Accrued dividend on preferred stock		93																		(222)	(222)	
Reversal of dividend accreted		(93)																		93	93	
Deemed dividend on preferred stock		1,375																		(1,375)	(1,375)	
Net loss for the period ended December 31, 2012																				(9,833)	(9,833)	
Balance at December 31, 2012	5,000	$ 4,941	87,389	$ 87	—	$ —	300	$ —	2,000	$ 2	—	$ —	—	$ —	—	$ —	$ —	$ —	$ 69,945	$ (71,792)	$ (1,758)	$ —

See accompanying notes to the consolidated financial statements.

International Stem Cell Corporation and Subsidiaries
(A Development Stage Company)
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31,		Inception (August 17, 2001) through December 31, 2012
	2012	2011	
Cash flows from operating activities			
Net loss	$(9,833)	$(9,171)	$ (62,750)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	474	494	1,916
Accretion of discount on notes payable	—	—	103
Accretion of discount on bridge loans	—	—	638
Warrants issued for services	73	75	370
Non-cash compensation expense	2,361	3,540	10,771
Common stock issued for services	59	303	4,356
Change in market value of warrants	(38)	(2,335)	1,357
Amortization of discount on convertible debt	—	—	1,081
Allowance for inventory obsolescence	(40)	61	36
Interest on perpetual preferred stock notes receivable	—	—	(35)
Loss on disposal of fixed assets	56	24	80
Impairment of intangible assets	190	3	193
Changes in operating assets and liabilities:			
(Increase) decrease in accounts receivable	(133)	599	(273)
(Increase) decrease in inventory, net	109	(473)	(1,235)
(Increase) decrease in prepaid assets and other assets	(182)	(46)	(456)
(Increase) decrease in deposits	(4)	24	(20)
Increase (decrease) in accounts payable	192	302	1,077
Increase (decrease) in accrued expenses	(22)	207	1,015
Increase (decrease) in deferred revenue	44	(571)	233
Increase (decrease) in related party payable	5	—	(160)
Net cash used in operating activities	(6,689)	(6,964)	(41,703)
Investing activities			
Purchases of property and equipment	(197)	(565)	(2,686)
Proceeds from sale of property and equipment	7	—	7
Payments for patent licenses and trademarks	(596)	(376)	(2,277)
Net cash used in investing activities	(786)	(941)	(4,956)
Financing activities			
Proceeds from Members' contributions	—	—	2,685
Proceeds from issuance of common stock			

	2,084	3,358	28,882
Proceeds from issuance of preferred stock	4,941	—	17,202
Proceeds from issuance of convertible promissory notes	—	—	2,100
Proceeds from exercise of warrants and options	4	532	992
Payment of preferred stock dividends	(237)	(430)	(1,320)
Payment of promissory notes	—	—	(2,203)
Payment of offering costs	—	—	(1,760)
Proceeds from convertible debt, advances and loan payable	—	—	1,360
Payment of loan payable	—	—	(625)
Net cash provided by financing activities	6,792	3,460	47,313
Net (decrease) increase in cash and cash equivalents	(683)	(4,445)	654
Cash and cash equivalents, beginning of period	1,337	5,782	—
Cash and cash equivalents, end of period	$ 654	$ 1,337	$ 654
Supplemental disclosures of cash flow information:			
Cash paid for interest	$ —	$ —	$ 372
Cash paid for income taxes	$ —	$ —	$ 11
Non-cash financing activities:			
Discount on convertible debt from beneficial conversion feature	$ —	$ —	$ 641
Discount on convertible debt from warrants	$ —	$ —	$ 270
Accretion of preferred stock dividends	$ 93	$ —	$ 93
Deemed dividend on preferred stock	$ 1,375	$ —	$ 8,058
Reversal of preferred dividends accreted	$ (93)	$ —	$ (93)
Conversion of debt to common stock	$ —	$ —	$ 500
Warrants issued for placement agent services	$ —	$ —	$ 1,231
Warrants issued with promissory notes	$ —	$ —	$ 638
Non-cash sale of preferred stock	$ —	$ —	$ 382
Dividend on preferred stock exchanged for note receivable	$ —	$ —	$ 95
Conversion of preferred stock	$ —	$ —	$ 2
Cashless exercise of warrants	$ —	$ 26	$ 1,847

See accompanying notes to the consolidated financial statements.

International Stem Cell Corporation and Subsidiaries
(A Development Stage Company)

Notes to Consolidated Financial Statements

1. Organization and Significant Accounting Policies

BUSINESS COMBINATION AND CORPORATE RESTRUCTURE

BTHC III, Inc. ("BTHC III" or the "Company") was organized in Delaware in June 2005 as a shell company to effect the reincorporation of BTHC III, LLC, a Texas limited liability company. On December 28, 2006, the Company effected a Share Exchange pursuant to which it acquired all of the stock of International Stem Cell Corporation, a California corporation ("ISC California"). After giving effect to the Share Exchange, the stockholders of ISC California owned 93.7% of issued and outstanding shares of common stock. As a result of the Share Exchange, ISC California is now the wholly-owned subsidiary, though for accounting purposes it was deemed to have been the acquirer in a "reverse merger." In the reverse merger, BTHC III is considered the legal acquirer and ISC California is considered the accounting acquirer. On January 29, 2007, the Company changed its name from BTHC III, Inc. to International Stem Cell Corporation.

Lifeline Cell Technology, LLC ("LCT") was formed in the State of California on August 17, 2001. LCT is in the business of developing and manufacturing purified primary human cells and optimized reagents for cell culture. LCT's scientists have used a technology, called basal medium optimization, to systematically produce products designed to culture specific human cell types and to elicit specific cellular behaviors. These techniques also produce products that do not contain non-human animal proteins, a feature desirable to the research and therapeutic markets. LCT distinguishes itself in the industry by having in place scientific and manufacturing staff with the experience and knowledge to set up systems and facilities to produce a source of consistent, standardized, non-human animal protein free cell products, some of which are suitable for FDA approval.

On July 1, 2006, LCT entered into an agreement among LCT, ISC California and the holders of membership units and warrants. Pursuant to the terms of the agreement, all the membership units in LCT were exchanged for 20,000,000 shares of ISC California Common Stock and for ISC California's assumption of LCT's obligations under the warrants. LCT became a wholly-owned subsidiary of ISC California.

Lifeline Skin Care, Inc. ("LSC") was formed in the State of California on June 5, 2009 and is a wholly-owned subsidiary of ISC California. LSC develops, manufactures and markets cosmeceutical products, utilizing an extract derived from our human parthenogenetic stem cell technologies.

Going Concern

The Company continues in the development stage and as such has accumulated losses from inception and expects to incur additional losses in the near future. The Company needs to raise additional working capital. The timing and degree of any future capital requirements will depend on many factors. Currently, the Company's burn rate is approximately $580,000 per month, excluding capital expenditures and patent costs averaging $70,000 per month. There can be no assurance that the Company will be successful in maintaining its normal operating cash flow, and that such cash flows will be sufficient to sustain the Company's operations through 2013. Based on the above, there is substantial doubt about the Company's ability to continue as a going concern. The consolidated financial statements were prepared assuming that the Company is a going concern. The consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of this uncertainty. Management's plans in regard to these matters are focused on managing its cash flow, the proper timing of its capital expenditures, and raising additional capital or financing in the future. From January through March 15, 2013, to obtain funding for working capital purposes, the Company sold a total of 16,325,000 shares of common stock raising $3,289,000. For further discussion, see Note 11, Subsequent Events.

In October 2012 we filed a registration statement with the SEC that, following effectiveness, would allow us to raise up to $15 million from the sale of common stock and warrants. However, this is a "best efforts" offering and we cannot predict the timing or amount of any funds that we may actually receive.

Basis of Presentation

International Stem Cell Corporation was formed in June 2006. BTHC III, Inc. was a shell company that had no operations and no net assets. For accounting purposes the acquisition has been treated as a recapitalization of BTHC III with ISC California as the accounting acquirer (reverse acquisition). The historical statements prior to June 2006 are those of Lifeline Cell Technology, a wholly-owned subsidiary of ISC California.

The Company is a development-stage company with no revenue generated from its principal operations in therapeutic and biomedical product development through research and development efforts. To date the Company has generated limited and unpredictable revenue to support our core therapeutic research and development efforts.

Principles of Consolidation

The Company's consolidated financial statements include the accounts of International Stem Cell Corporation and its subsidiaries after intercompany balances and transactions have been eliminated.

The preparation of financial statements requires that management make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, and expenses, and related disclosure of contingent assets and liabilities. Actual results could differ from those estimates.

Cash Equivalents

The Company considers all highly liquid investments with original maturities of three months or less when purchased to be cash equivalents.

Inventories

Inventories are accounted for using the first-in, first-out (FIFO) method for LSC products, and specific identification method for LCT products. Inventory balances are stated at the lower of cost or market. Laboratory supplies used in the research and development process are expensed as consumed. Inventory is reviewed periodically for product expiration and obsolescence and is adjusted accordingly.

Accounts Receivable

Trade accounts receivable are recorded at the net invoice value and are not interest bearing. Accounts receivable primarily consist of trade accounts receivable from the sales of LCT's products, timing of cash receipts by the Company related to LSC credit card sales to customers, as well as LSC trade receivable amounts related to spa and distributor sales. The Company considers receivables past due based on the contractual payment terms. The Company reviews its exposure to accounts receivable and reserves specific amounts if collectability is no longer reasonably assured. As of December 31, 2012, the Company had an allowance for doubtful accounts totaling $4,000. As of December 31, 2011, the Company did not have an allowance for doubtful accounts as all accounts receivable were deemed collectible.

Property and Equipment

Property and equipment are stated at cost. The provision for depreciation and amortization is computed using the straight-line method over the estimated useful lives of the assets, generally over five years. The costs of major remodeling and leasehold improvements are capitalized and amortized over the shorter of the remaining term of the lease or the life of the asset.

Intangible Assets

Intangible assets consist of acquired research and development rights used in research and development, and capitalized legal fees related to the acquisition, filing, maintenance, and defense of patents. Patent or patent license amortization only begins once a patent license is acquired or a patent is issued by the appropriate authoritative bodies. In the period in which a patent application is rejected or efforts to pursue the patent are abandoned, all the related accumulated costs are expensed. Patents and patent licenses are recorded at cost of $2,083,000 and $1,677,000 at December 31, 2012 and 2011, respectively, and are amortized on a straight-line basis over the shorter of the lives of the underlying patents or the useful life of the license. Amortization expense for the years ended December 31, 2012 and 2011 amounted to $54,000 and $77,000, respectively, and is included in research and development expense. Accumulated amortization as of December 31, 2012 and 2011 was $449,000 and $395,000, respectively. Additional information regarding patents and patent licenses is included in Note 4.

Long-Lived Asset Impairment

The Company reviews long-lived assets for impairment when events or changes in business conditions indicate that their carrying value may not be recovered, and at least annually. The Company considers assets to be impaired and writes them down to fair value if expected associated undiscounted cash flows are less than the carrying amounts. Fair value is the present value of the associated cash flows. The Company recognized $190,000 and $3,000 of impairments on its long-lived assets during the years ended December 31, 2012 and 2011, respectively.

Product Sales

The Company recognizes revenue from product sales at the time of shipment to the customer, provided no significant obligations remain and collection of the receivable is reasonably assured. If the customer has a right of return, the Company recognizes product revenues upon shipment, provided that future returns can be reasonably estimated. In the case where returns cannot be reasonably estimated, revenue will be deferred until such estimates can be made or the right of return has expired. LCT contributed 52% and 47% of total revenue in 2012 and 2011, respectively. LSC 's revenue accounted for 48% and 53% of total revenue in 2012 and 2011, respectively.

Deferred Revenue

The Company recognizes revenue from LSC products when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the seller's price to the buyer is fixed or determinable, and collectability is reasonably assured. However, the LSC products have a 30-day right of return guarantee and therefore, the Company defers all revenue associated with these product sales until the 30-day guarantee has expired. In addition, all costs associated with these product sales are reclassified against the deferred revenue account so that the net deferred revenue balance is presented. At December 31, 2012 and 2011, net deferred revenue totaled $233,000 and $189,000, respectively.

Cost of Sales

Cost of sales consists primarily of salaries and benefits associated with employee efforts expended directly on the production of the Company's products and include related direct materials, general laboratory supplies and allocation of overhead. Certain of the agreements under which the Company has licensed technology will require the payment of royalties based on the sale of its future products. Such royalties will be recorded as a component of cost of sales. Additionally, the amortization of license fees or milestone payments related to developed technologies used in the Company's products will be classified as a component of cost of sales to the extent such payments become due in the future.

Research and Development Costs

Research and development costs, which are expensed as incurred, are primarily comprised of costs and expenses for salaries and benefits associated with research and development personnel, overhead and occupancy, contract services, and amortization of license costs for technology used in research and development with alternative future uses.

Registration Payment Arrangements

In accordance with applicable authoritative guidance, the Company is required to separately recognize and measure registration payment arrangements, whether issued as a separate agreement or included as a provision of a financial instrument or other agreement. Such payments include penalties for failure to effect a registration of securities.

Fair Value Measurements

On January 1, 2008, the Company adopted authoritative guidance for fair value measurements and fair value disclosures. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. Assets and liabilities that are measured at fair value are reported using a three-level fair value hierarchy that prioritizes the inputs used to measure fair value. This hierarchy maximizes the use of observable inputs and minimizes the use of unobservable inputs. The three levels of inputs used to measure fair value are as follows:

Level 1	Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities;
Level 2	Quoted prices in markets that are not active, or inputs that are observable, either directly or indirectly, for substantially the full term of the asset or liability; and
Level 3	Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable (supported by little or no market activity).

Assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement.

The table below sets forth a summary of the fair values of the Company's assets and liabilities as of December 31, 2012 (in thousands).

	Total	Level 1	Level 2	Level 3
ASSETS:				
Cash equivalents	$ 5	$ 5	$ —	$ —

The table below sets forth a summary of the fair values of the Company's assets and liabilities as of December 31, 2011 (in thousands).

	Total	Level 1	Level 2	Level 3
ASSETS:				
Cash equivalents	$470	$ 470	$ —	$ —
LIABILITIES:				
Warrants to purchase common stock	$ 38	$ —	$ —	$ 38

The following table displays the rollforward activity of liabilities with inputs that are both significant to the fair value measurement and unobservable (supported by little or no market activity):

	Warrants to purchase common stock
Beginning balance at December 31, 2010	$ 2,400
Issuances	—
Adjustments to estimated fair value	(2,362)
Ending balance at December 31, 2011	38
Issuances	—
Adjustments to estimated fair value due to expiry	(38)
Ending balance at December 31, 2012	$ —

Income Taxes

The Company accounts for income taxes in accordance with applicable authoritative guidance, which requires the Company to provide a net deferred tax asset/liability equal to the expected future tax benefit/expense of temporary reporting differences between book and tax accounting methods and any available operating loss or tax credit carryforwards.

Use of Estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements. Significant estimates include patent life (remaining legal life versus remaining useful life), inventory carrying values, and transactions using the Black-Scholes option pricing model, e.g., warrants and stock options, as well as Monte-Carlo valuation method for certain warrants. Actual results could differ from those estimates.

Fair Value of Financial Instruments

The Company believes that the carrying value of its cash and cash equivalents, receivables, accounts payable and accrued liabilities as of December 31, 2012 and 2011 approximate their fair values because of the short-term nature of those instruments. The fair value of certain warrants was determined at each reporting date in 2011 using the Monte-Carlo valuation methodology; however, all warrants requiring such valuations expired in the first quarter of 2012.

Income (Loss) Per Common Share

The computation of net loss per common share is based on the weighted average number of shares outstanding during each period. The computation of diluted earnings per common share is based on the weighted average number of shares outstanding during the period plus the common stock equivalents, which would arise from the exercise of stock options and warrants outstanding using the treasury stock method and the average market price per share during the period. At December 31, 2012, there were 335,000 non-vested restricted shares, 3,500,000 warrants, and 15,407,902 vested and 7,969,230 non-vested stock options outstanding; and at December 31, 2011, there were 6,569,550 warrants, and 11,842,841 vested and 11,141,598 non-vested stock options outstanding. These restricted shares, options and warrants were not included in the diluted loss per share calculation because the effect would have been anti-dilutive.

Comprehensive Income

Comprehensive income or loss includes all changes in equity except those resulting from investments by owners and distributions to owners. The Company did not have any items of comprehensive income or loss other than net loss from operations for the years ended December 31, 2012 and 2011 or the period from inception through December 31, 2012.

Recent Accounting Pronouncements

There were no new accounting pronouncements during the year ended December 31, 2012, as compared to the recent accounting pronouncements described in the Annual Report on Form 10-K for the fiscal year ended December 31, 2011, that are of significance, or potential significance, to the Company.

2. Inventory

Inventories are accounted for using the first-in, first-out (FIFO) method for Lifeline Skin Care products, and specific identification method for Lifeline Cell Technology products. Lab supplies used in the research and development process are expensed as consumed. Inventory is reviewed periodically for product expiration and obsolete inventory and adjusted accordingly. The components of inventories are as follows (in thousands):

	December 31, 2012	December 31, 2011
Raw materials	$ 276	$ 265
Work in process	211	285
Finished goods	748	794
Total	1,235	1,344
Less: allowance for inventory obsolescence	(36)	(76)
Inventory, net	$ 1,199	$ 1,268

3. Property and Equipment

Property and equipment consists of the following (in thousands):

	December 31, 2012	December 31, 2011
Machinery and equipment	$ 1,072	$ 969
Computer equipment	347	358
Office equipment	225	217
Leasehold improvements	830	816
	2,474	2,360
Less: accumulated depreciation and amortization	(1,340)	(940)
Property and equipment, net	$ 1,134	$ 1,420

Depreciation expense for the years ended December 31, 2012 and 2011 were $420,000 and $417,000, respectively.

4. Patent Licenses

On December 31, 2003, LCT entered into an *Option to License Intellectual Property* agreement with Advanced Cell Technology, Inc. (“ACT”) for patent rights and paid ACT $340,000 in option and license fees. On February 13, 2004, LCT and ACT amended the Option agreement and LCT paid ACT additional option fees of $22,500 for fees related to registering ACT’s patents in selected international countries.

On May 14, 2004, LCT amended the licensing agreement with ACT for the exclusive worldwide patent rights for the following ACT technologies: UMass IP, ACT IP and Infigen IP, which terms are summarized below. The additional license fees aggregate a total of $400,000 and were secured by separate convertible promissory notes. The notes bore no interest unless they were not repaid at maturity, in which event they shall thereafter bear interest at an annual rate equal the lesser of 10% or the maximum non-usurious rate legally allowed.

The notes could be converted at the option of ACT into the first equity financing of LCT with cash proceeds in excess of $5,000,000 under the following conditions: i) Upon the consummation of the First Equity Financing; or ii) Immediately prior to the closing of any merger, sale or other consolidation of the Company or of any sale of all or substantially all assets of the Company which occurs prior to the First Equity Financing (an "Acquisition Event"). Notwithstanding the above, and only in the event that a conversion resulting from such Acquisition Event would result in a security not traded on a national stock exchange (including NASDAQ and NASDAQ small cap), upon written notice to the Company not later than five days after the consummation of the Acquisition Event and notice of the Acquisition Event to the holder of the note, the holder may elect to receive payment in cash of the entire outstanding principal of this Note. On February 7, 2013 the Company and ACT entered into Amended and Restated License Agreements for the purpose of completely amending and restating the terms of the license agreements. For further discussion, see Note 11, Subsequent Events.

On December 21, 2007 ACT elected to receive payment and was paid in cash in-lieu of conversion of the notes. As of December 31, 2012, the Company still maintained an obligation to pay royalties and other fees in accordance with the following schedule (in thousands, except percentages and sales thresholds):

	UMass IP	ACT IP	Infigen IP
License fee	$ 150	$ 225	$ 25
Royalty rates	3% to 12%	3% to 10%	3% to 10%
Minimum royalties			
At 12 months	$ 15	$ 15	$ 8
At 24 months	$ 30	$ 38	$ 8
At 36 months	$ 45	$ 61	$ 7
Annually thereafter	$ 60	$ 75	$ 15
Milestone payments			
First commercial product	$ 250	$ 250	$ 250
Sales reaching $5,000,000	$ 500	$ 500	$ 500
Sales reaching $10,000,000	$ 1,000	$ 1,000	$ 1,000

As of December 31, 2012, the total amounts capitalized related to the acquired ACT licenses were $747,000, and $1,336,000 related to other patent acquisition costs.

At December 31, 2012, future amortization expense related to our intangible assets subject to amortization is expected to be as follows (in thousands):

	Amount
2013	$ 60
2014	60
2015	60
2016	60
2017	61
Thereafter	1,272
Total	$ 1,573

5. Advances

Advance

On June 18, 2008, the Company entered into an agreement with BioTime, Inc. ("BioTime"), where BioTime will pay an advance of $250,000 to Lifeline Cell Technology, a wholly-owned subsidiary of International Stem Cell Corporation, to produce, make, and distribute Joint Products. The $250,000 advance will be paid down with the first $250,000 of net revenues that otherwise would be allocated to LCT under the agreement. As of December 31, 2012, no revenues were realized from this agreement.

	December 31, 2012	December 31, 2011
BioTime, Inc. (in thousands)	$ 250	$ 250

6. Capital Stock

As of December 31, 2006, the Company was authorized to issue 200,000,000 shares of common stock, $0.001 par value per share, and 20,000,000 shares of preferred stock, $0.001 par value per share. In May 2012, the Company amended its Certificate of Incorporation to increase the authorized number of shares of common stock to 300,000,000.

In October 2006, the board of directors of BTHC III approved a stock split of 4.42 shares to 1. As a result of the split, the outstanding common stock of BTHC III increased from 500,000 to 2,209,993 shares. Pursuant to the Share Exchange Agreement, each share of International Stem Cell Corporation common stock was exchanged for one share of BTHC III common stock. All numbers in the financial statements and notes to the financial statements have been adjusted to reflect the stock split for all periods presented.

On December 27, 2006, the Company's Board of Directors and holders of a majority of the outstanding shares approved an increase in the authorized capital stock of the Company to 200,000,000 shares of Common Stock, $0.001 par value per share, and 20,000,000 shares of preferred stock, $0.001 par value per share.

In December 2006, the Company issued 1,350,000 shares of common stock, 350,000 of such shares in consideration for legal consulting services relating to the reverse merger and 1,000,000 shares in consideration for a contract to provide investor relations services which commenced September 1, 2006 for a period of one year.

In January and February 2007, ISC California completed the Brookstreet financing and issued 1,370,000 shares of common stock that was part of a private placement of securities by ISC California during the second half of 2006. The net proceeds from sale finalized in 2007 were $1,157,000 net of cash fees and expenses. In connection with the final settlement in 2007, the selling agent for the private placement received 274,000 additional warrants, which entitled the holder thereof to purchase through February, 2012 that number of shares of common stock for $1.00 each.

Series A Preferred Stock

On January 15, 2008, to raise funds, the Company entered into a subscription agreement with accredited investors for the sale of between 1,000,000 and 5,000,000 of Series A Preferred Stock ("Series A Preferred"). Series A Units consist of one share of Series A Preferred and two Warrants ("Series A Warrants") to purchase common stock for each $1.00 invested. The Series A Preferred was convertible into shares of common stock at market price on the date of the first finance closing, but not to exceed $1 per share and the Series A Warrants are exercisable at $0.50 per share. The Series A Preferred has an anti-dilution clause whereby, if the Company issues $1 million or more of equity securities or securities convertible into equity at a price below the respective exercise prices of the Series A Preferred or the Series A Warrant shall be adjusted downward to equal the price of the new securities. The Series A Preferred has priority on any sale or liquidation of the Company equal to the purchase price of the Series A Units, plus a liquidation premium of 6% per year. If the Company elects to declare a dividend in any year, it must first pay to the Series A Preferred a dividend of the amount of the dividend the Series A Preferred holder would receive if the shares were converted just prior to the dividend declaration.

Each share of Series A Preferred has the same voting rights as the number of shares of common stock into which it would be convertible on the record date. On March 30, 2012, the holder of the remaining 500,000 shares of Series A Preferred Stock, converted his shares to a total of 2,000,000 shares of common stock. As of December 31, 2012 and 2011, the Company had zero and 500,000 shares of the Series A Preferred Stock issued and outstanding, respectively. In May 2012, the Company filed a Certificate of Elimination for the Series A Preferred Stock to remove the powers, designations, preferences, privileges and other rights of the Series A Preferred Stock.

Series B Preferred Stock

On May 12, 2008, to obtain funding for working capital, the Company entered into a series of subscription agreements with five accredited investors for the sale of a total of 400,000 Series B Units, each Series B Unit consisting of one share of Series B Preferred Stock ("Series B Preferred") and two Series B Warrants ("Series B Warrants") to purchase common stock for each $1.00 invested.

The total purchase price received by the Company was $400,000. The Series B Preferred is convertible into shares of common stock at the initial conversion ratio of two shares of common stock for each share of Series B Preferred converted (which was established based on an initial conversion price of $0.50 per share), and the Series B Warrants were exercisable at $0.50 per share until five years from the issuance of the Series B Warrants. The Series B Preferred and Series B Warrants contained anti-dilution clauses whereby, (subject to the exceptions contained in those instruments) if the Company issues equity securities or securities convertible into equity at a price below the respective conversion price of the Series B Preferred or the exercise price of the Series B Warrant, such conversion and exercise prices shall be adjusted downward to equal the price of the new securities, which has been triggered and the new price of the warrants was set at $0.25. The Series B Preferred has a priority (senior to the shares of common stock, but junior to the shares of Series A Preferred Stock) on any sale or liquidation of the Company equal to the purchase price of the Series B Units, plus a liquidation premium of 6% per year. If the Company elects to declare a dividend in any year, it must first pay to the Series B

Preferred holder a dividend equal to the amount of the dividend the Series B Preferred holder would receive if the Series B Preferred were converted just prior to the dividend declaration. Each share of Series B Preferred has the same voting rights as the number of shares of common stock into which it would be convertible on the record date. As of December 31, 2012 and 2011, the Company had 300,000 shares of the Series B Preferred Stock issued and outstanding.

Fair Value of Warrants Issued with Series A and B Preferred Stock

In accordance with the applicable authoritative guidance, the Company allocated the proceeds of the Series A and B preferred stock according to the value of the convertible preferred stock and the warrants based on their relative fair values. Fair value of the warrants issued with the Series A and Series B were determined using the Black-Scholes valuation model using risk-free interest rates of 3% and 3.37%, volatility rate of 65.0% and 57.9%, term of five years, and exercise price of $0.50.

In connection with the Series A and B rounds of financing, each investor received a warrant to purchase up to a number of shares of common stock for $1.00 per share. Subsequently, the exercise price for those warrants was adjusted down to $0.25 per share.

In August 2008, in accordance with the anti-dilution provisions of the securities, the conversion rates and exercise price were reduced to $0.25. Estimated adjusted fair value of the warrants was determined using the Black-Scholes valuation model using risk-free interest rate of 3%, volatility rate of 57.9%, term of five years, and exercise price of $0.25. For Series A and Series B, the beneficial conversion feature and warrants were adjusted to $553,000 and $193,000, and $308,000 and $110,000, respectively.

During the second quarter of 2010, the holders of the warrants issued to the purchasers of Series A and B Preferred Stock signed a waiver to give up their rights to the anti-dilution provisions related to the warrants and the exercise price is now fixed at $0.25. The modification to the warrants resulted in the change in classification from a liability to equity and the warrants were re-valued at the date of modification. The re-valuation of the warrants resulted in a reduction in the warrant value of $5,276,000 which was recorded as a credit to income. The adjusted value of the warrants of $804,971 was reclassified to Additional Paid-in Capital, thus eliminating any fair value of outstanding warrant liability as of June 30, 2010.

Series C Preferred Stock

On August 20, 2008, to obtain funding for working capital, the Company entered into a subscription agreement with an accredited investor (the “Series C Investor”) to sell for $3,000,000 up to 3,000,000 shares of Series C Preferred Stock (“Series C Preferred”) at a price of $1.00 per Series C Preferred share. The Series C Preferred will be convertible into shares of common stock at $0.25 per share. The Series C Preferred had an anti-dilution clause whereby, if the Company issues 250,000 shares or more of equity securities or securities convertible into equity at a price below the conversion price of the Series C Preferred, the conversion price of the Series C Preferred shall be adjusted downward to equal the price of the new securities. The Series C Preferred shall have priority over the common stock on any sale or liquidation of the Company equal to the purchase price of the Series C Preferred Shares, plus a liquidation premium of 6% per year, but such payment may be made only after payment in full of the liquidation preferences payable to holders of any shares of Series A and Series B preferred stock then outstanding. If the Company elects to declare a dividend in any year, it must first pay to the Series C Preferred a dividend in the amount of the dividend the Series C Preferred holder would receive if converted just prior to the dividend declaration. Each share of Series C Preferred shall have the same voting rights as the number of shares of common stock into which it would be convertible on the record date. 700,000 shares of Series C Preferred Stock were sold on August 20, 2008, and 1,300,000 shares of Series C Preferred Stock were sold on September 23, 2008. The beneficial conversion feature for the Series C preferred stock is $720,000. All the Series C Preferred Stock was issued to X-Master Inc., which is a related party and affiliated with our Chief Executive Officer and Co-Chairman of the Board of Directors Dr. Andrey Semechkin and Dr. Ruslan Semechkin, Vice President of International Stem Cell and a director. As of December 31, 2012 and 2011, we had 2,000,000 shares of the Series C Preferred Stock issued and outstanding. On January 22, 2013, the holders of Series C Preferred Stock converted all of the outstanding shares of Series C Preferred Stock into common stock at $0.25 per share, or a total of 8,000,000 shares of common stock. For further discussion, see Note 11, Subsequent Events.

Series D Preferred Stock

On December 30, 2008, to obtain funding for both working capital and the eventual repayment of the outstanding obligation under the OID Senior Secured Convertible Note with a principal amount of $1,000,000 issued in May 2008, the Company entered into a Series D Preferred Stock Purchase Agreement (the “Series D Agreement”) with accredited investors (the “Investors”) to sell for up to $5,000,000 or up to 50 shares of Series D Preferred Stock (“Series D Preferred”) at a price of $100,000 per Series D Preferred share. The sale of the Series D Preferred closed on the following schedule: (1) 10 shares were sold on December 30, 2008; (2) 10 shares were sold on February 5, 2009; and (3) 10 shares were sold on each of March 20, 2009, and June 30, 2009 and 3 shares on September 30, 2009. The Company raised a total of $4,700,000 in the Series D Preferred Stock round. Of the Series D Preferred Stock issued, 10 shares of the Series D Preferred Stock was issued to X-Master Inc., which is a related party and affiliated with our Chief Executive Officer and Co-Chairman of the Board of Directors Dr. Andrey Semechkin and Dr. Ruslan Semechkin, Vice President of International Stem Cell and a director and 33 shares of the Series D Preferred Stock was issued to our Chief Executive Officer and Co-Chairman of

the Board of Directors Dr. Andrey Semechkin. As of December 31, 2012 and 2011, we had 43 shares of the Series D Preferred Stock issued and outstanding. Historically, the Series D Preferred Stock earned cumulative dividends at a rate of 10% per annum through December 31, 2011 and 6% per annum effective January 1, 2012, payable 15 days after each quarter end. As of December 31, 2012 and 2011, Series D Preferred Stock dividends of $0 and $108,000 were accrued, respectively. During the years ended December 31, 2012 and 2011, dividends of $237,000 and $429,000 were paid to the holders, respectively.

On October 12, 2012, the Company and the holders of all of the outstanding shares of Series D and Series G Preferred Stock entered into a Waiver Agreement (the "Waiver Agreement") pursuant to which such holders irrevocably waived their right to receive any and all accrued but unpaid dividends and interest thereon on or after September 30, 2012 on the Series D and Series G Preferred Stock. Under the Waiver Agreement, the holders of Series D and Series G Preferred Stock are restricted from transferring any shares of Series D Preferred Stock unless the transferee agrees to be bound by the Waiver Agreement.

On December 4, 2012, the holders of all of the outstanding shares of Series D Preferred Stock executed a Waiver of Anti-Dilution Rights (the "Anti-Dilution Waiver") pursuant to which such holders waived all anti-dilution adjustment rights under the Certificate of Designation for the Series D Preferred Stock in connection with the offering of securities pursuant to the registration statement originally filed with the Securities and Exchange Commission on October 18, 2012, including the shares issuable on exercise of all warrants registered hereunder. The Anti-Dilution Waiver does not apply to any future issuances of securities which would otherwise trigger anti-dilution adjustments under the Certificate of Designation for the Series D Preferred Stock.

Series E Preferred Stock

On June 30, 2009, the Company entered into a definitive agreement with Optimus Capital Partners, LLC ("Investor") for a $5 million investment commitment. The transaction was structured whereby the Company could draw down funds as needed, but had no obligations to make draws or use these funds if not needed. As funds were drawn down, the Company issued Series E Preferred Stock (the "Preferred Stock"). The Preferred Stock was not convertible into common stock and could be redeemed by the Company after one year. Each issue of Preferred Stock was accompanied by the issuance of five-year warrants to purchase common stock at 100% of the closing price of the company's common stock on the day prior to the date the company gave notice of its election to draw funds. The total exercise value of warrants issued equaled 135% of the drawdown amount. Dividends on the Preferred Stock were payable in additional shares of non-convertible Preferred Stock at the rate of 10% per annum. A commitment fee of $250,000, payable in shares of common stock, was made to the Investor. As part of the agreement, the Company filed a registration statement on July 31, 2009, which was declared effective on September 30, 2009. The investment was used to fund operations and working capital needs of the Company and expand its scientific research.

On July 31, 2009, the Company filed a registration statement with the Securities and Exchange Commission as part of the Preferred Stock Purchase Agreement the Company signed on June 30, 2009, between International Stem Cell Corporation and Optimus Capital Partners. Per the agreement, the Company was required to use its best efforts to promptly file (but in no event later than 30 days after the Effective Date) and cause to become effective as soon as possible a Registration Statement for the sale of all Common Shares. Each Registration Statement was required to comply when it became effective, and, as amended or supplemented, at the time of any Tranche Notice Date, Tranche Closing Date, or issuance of any Common Shares, and at all times during which a prospectus was required by the Act to be delivered in connection with any sale of Common Shares, to comply, in all material respects, with the requirements of the Act. The Company is and has been in compliance with all applicable requirements of that agreement.

To create the Series E Preferred sold to the Investor under the Agreement, on June 30, 2009, the Company amended its Certificate of Incorporation by filing a Certificate of Designation of Preferences, Rights and Limitations of the Series E Preferred. The Series E Preferred has priority over the Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock and common stock on the proceeds from any sale or liquidation of the Company in an amount equal to the purchase price of the Series E Preferred, plus any accrued but unpaid dividends. From the date of issuance of the Series E Preferred, dividends at the rate per annum of ten percent (10%) of the Purchase Price per share accrued on such shares of Series E Preferred. Following the first anniversary of the issuance date, the Company had the right at its option to redeem the Series E Preferred at an amount equal to the purchase price of the Series E Preferred, plus any accrued but unpaid dividends and plus a redemption premium that declines from 26% (for redemptions between the first and second anniversary of issuance) to zero (for redemptions after the fourth anniversary of issuance).

During 2010, the Company drew $2.4 million of the private equity financing and issued 24 shares of the Series E Preferred Stock, as well as issued 3.7 million warrants which were immediately exercised to purchase 3.7 million shares of the Company's common stock.

Exchange Agreement Series E Preferred Stock

On June 11, 2010, the Company entered into an Exchange Agreement (the "Optimus Exchange Agreement") with Optimus Capital Partners, LLC ("Optimus") under which the Company and Optimus agreed to exchange all of the Series E Preferred Stock previously

issued to Optimus pursuant to the Preferred Stock Purchase Agreement dated June 30, 2009 (the "Optimus Preferred Stock Agreement") for all of the promissory notes of Optimus (the "Optimus Notes") issued to the Company in that transaction as payment for shares of the Company's common stock. As part of the exchange transaction, the Company agreed to waive all accrued interest on the Optimus Notes and Optimus agreed to waive all accrued dividends and redemption premiums on the Series E Preferred Stock. The exchange was completed in June 2010 and is discussed in more detail below. Following the return of all shares of Series E Preferred Stock, the Company filed a Certificate of Elimination for the Series E Preferred Stock to remove the powers, preferences, privileges and other rights of the Series E Preferred Stock.

Series F Preferred Stock

On May 4, 2010, International Stem Cell Corporation entered into a Preferred Stock Purchase Agreement with Socius CG II, Ltd., a Bermuda exempted company (the "Investor"), to sell for up to $10,000,000 up to one thousand (1,000) shares of Series F Preferred Stock ("Series F Preferred") at a price of $10,000 per Series F Preferred share. The Company was entitled to determine the time and amount of Series F Preferred to be purchased by the Investor and the Company intended to sell all 1,000 shares of Series F Preferred at a single time. The Series F Preferred could not be converted into common stock and was redeemable by the Company. Under the terms of the Agreement, the Company provided the Investor with a non-refundable fee of 250,000 shares of Company common stock (the "Fee Shares") and issued the Investor a warrant to purchase up to 7,000,000 shares of the Company's common stock, with the exercise price of $1.93 per share, subject to adjustment. The closing of the sale of the Series F Preferred took place in early June 2010.

Exchange Agreement Series F Preferred Stock

On June 11, 2010, the Company, entered into an Exchange Agreement (the "Socius Exchange Agreement") with Socius CG II, Ltd. ("Socius") under which the Company and Socius agreed to exchange all of the Series F Preferred Stock previously issued to Socius pursuant to the Preferred Stock Purchase Agreement dated May 4, 2010 (the "Socius Preferred Stock Agreement") for all of the promissory notes of Socius (the "Socius Notes") issued to the Company in that transaction as payment for shares of the Company's common stock and a $2.5 million note issued in partial payment for the Socius Series F Preferred Stock. As part of the exchange transaction, the Company agreed to waive all accrued interest on the Socius Notes and Socius agreed to waive all accrued dividends and redemption premiums on the Socius Series F Preferred Stock. The exchange was completed in June 2010 and is discussed in more detail below. Following the return of all shares of Series F Preferred Stock, the Company filed a Certificate of Elimination for the Series F Preferred Stock to remove the powers, preferences, privileges and other rights of the Series F Preferred Stock.

Perpetual Preferred Stock

As part of the Series E financing agreement, the Company recorded a Perpetual Preferred Stock equal to the amount of financing received during the year, plus accrued dividends, and Note Receivable equal to 135% of financing received, which represents the amount of warrant coverage per the agreement, plus accrued interest. In accordance with applicable authoritative guidance on Accounting for Certain Financial Instruments with Characteristics of both Liabilities and Equity, the Company classified the Note Receivable as contra Equity ("Note subscription on Perpetual Preferred Stock") and the Perpetual Preferred Stock as a liability ("Long Term Perpetual Preferred Stock"). The Note Receivable accrued interest at a rate of 2% per year and the Perpetual Preferred Stock accrued a 10% dividend per year. The Company allocated the proceeds of the Series E Preferred Stock according to the value of the preferred stock and the fair value of the warrants. Estimated adjusted fair value of the warrants was determined using the Black-Scholes valuation model using risk-free interest rates ranging from 2.40% to 2.65%, volatility rate ranging from 64.46% to 65.33%, term of five years, and exercise price ranging from $0.56 to $0.74.

As a result of the exchange transactions for the Series E and Series F Preferred stock, all of the Company's obligations under the previously outstanding Series E Preferred Stock and Series F Preferred Stock, which collectively had liquidation preferences of $15 million senior to the shares of the Company's common stock and redemption premiums that started at 26% of the liquidation preference were retired and the Company no longer held any promissory notes of either Socius or Optimus. Because the parties to these exchange transactions determined that the instruments and rights being exchanged were of equivalent value, neither party paid any cash to the other party to the exchange transaction. Therefore, as of June 30, 2010, the Company reversed out all of the Perpetual Preferred Stock and the Notes Receivable related to the Perpetual Preferred Stock.

Series G Preferred Stock

On March 9, 2012, the Company entered into a Series G Preferred Stock Purchase Agreement (the "Series G Agreement") with AR Partners, LLC (the "Purchaser") to sell five million (5,000,000) shares of Series G Preferred Stock ("Series G Preferred") at a price of $1.00 per Series G Preferred share, for a total purchase price of $5,000,000. The Purchaser is an affiliate of Dr. Andrey Semechkin, the Company's Co-Chairman and Chief Executive Officer, and Dr. Ruslan Semechkin, Vice President of International Stem Cell and a director.

The Series G Preferred is convertible into shares of common stock at $0.40 per share, resulting in an initial conversion ratio of 2.5 shares of common stock for every share of Series G Preferred. The conversion price may be adjusted for stock splits and other combinations, dividends and distributions, recapitalizations and reclassifications, exchanges or substitutions and is subject to a weighted-average adjustment in the event of the issuance of additional shares of common stock below the conversion price.

The Series G Preferred shares have priority over the Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Common Stock on the proceeds from any sale or liquidation of the Company in an amount equal to the purchase price of the Series G Preferred, but such payment may be made only after payment in full of the liquidation preferences payable to holders of any shares of Series D Preferred Stock then outstanding. Historically, from the date of issuance of the Series G Preferred, cumulative dividends at the rate per annum of six percent (6%) of the Purchase Price per share accrued quarterly on such shares of Series G Preferred. Each share of Series G Preferred has the same voting rights as the number of shares of Common Stock into which it would be convertible on the record date. As long as there are at least 1,000,000 shares of Series G Preferred outstanding, the holders of Series G Preferred have (i) the initial right to propose the nomination of two members of the Board, at least one of which nominees shall be subject to the approval of the Company's independent directors, for election by the stockholder's at the Company next annual meeting of stockholders, or, elected by the full board of directors to fill a vacancy, as the case may be, and (ii) the right to approve any amendment to the certificate of incorporation, certificates of designation or bylaws, in manner adverse to the Series G Preferred, alter the percentage of board seats held by the Series G directors or increase the authorized number of shares of Series G Preferred. At least one of the two directors nominated by holders of the Series G Preferred shares shall be independent based on the NASDAQ listing requirements.

On October 12, 2012, the Company and the holders of all of the outstanding shares of Series D and Series G Preferred Stock entered into the Waiver Agreement pursuant to which such holders irrevocably waived their right to receive any and all accrued but unpaid dividends and interest thereon on or after September 30, 2012 on the Series D and Series G Preferred Stock. Accordingly, dividends from inception in the amount of $93,000 accreted to the carrying value of Series G preferred stock have been reversed. Under the Waiver Agreement, the holders of Series D and Series G Preferred Stock are restricted from transferring any shares of Series D Preferred Stock or Series G Preferred Stock unless the transferee agrees to be bound by the Waiver Agreement. As of December 31, 2012 and 2011, there was no dividend accrued on Series G Preferred Stock. No dividend was paid to the holders during the years ended December 31, 2012 and 2011.

The Company determined that the Series G convertible preferred shares have a contingent redemption feature allowing redemption by the holder under only some very limited circumstances ("deemed liquidation events"). As the event that may trigger the redemption of the convertible preferred stock is not solely within the Company's control, the convertible preferred stock has been classified as mezzanine equity (outside of permanent equity) on the Company's consolidated balance sheet. Additionally, legal costs related to the Series G financing in the amount of $59,000 were recorded in the mezzanine equity as well.

The Company determined that as the initial conversion price at the date of close of the Series G transaction was lower than the closing market price on that day (March 9, 2012) that a beneficial conversion feature existed in the amount of $1,375,000. Such amount was recorded as a discount on the Series G convertible preferred stock with a corresponding increase in additional paid-in capital. Based on the appropriate accounting guidance, the Company is required to recognize the discount over the period of time from the issuance of preferred shares until the convertible preferred shares can be first converted. As the Series G convertible shares are convertible immediately following their issuance, the discount amount of $1,375,000 was recognized in March 2012 as deemed dividend with a corresponding increase in accumulated deficit.

Common Stock Purchase Agreement

On December 9, 2010, International Stem Cell Corporation ("ISCO" or the "Company") entered into a Common Stock Purchase Agreement (the "Purchase Agreement") with Aspire Capital Fund, LLC ("Aspire Capital") which provides that, upon the terms and subject to the conditions and limitations set forth therein, Aspire Capital is committed to purchase up to an aggregate of $25.0 million of shares of ISCO common stock (the "Purchase Shares") over the term of the Purchase Agreement. In connection with the execution of the Purchase Agreement, ISCO sold Aspire 333,333 shares of common stock for a total of $500,000. Under the Purchase Agreement, the Company also agreed to pay Aspire Capital a commitment fee of 500,000 shares of its common stock. The Company is not obligated to pay any additional expense reimbursement or any placement agent fees in connection with the transaction.

The Purchase Agreement is intended to provide the Company with a source of capital of up to $25 million over a term of up to three years. The sales price of any shares the Company elects to sell will be known by the Company at the time it makes the decision to sell and will be determined by a formula (described below) based on the price of the Company's stock over the preceding 12 days. As a result, the Company will be able to sell shares on whatever schedule it believes best suits its needs and is not required to sell any shares unless it deems such sales to be beneficial to the Company.

Once the Registration Statement (referred to below) is effective, on any day on which the principal market for shares of ISCO common stock is open for trading, over the three-year term of the Purchase Agreement, the Company has the right, in its sole discretion, to provide Aspire Capital with a purchase notice (each, a "Purchase Notice") directing Aspire Capital to purchase the number of shares of ISCO common stock specified in the Purchase Notice. The number of shares the Company may designate in the Purchase Notice varies based on the closing price of the ISCO common stock on the date of the Purchase Notice. The Company may direct Aspire Capital to purchase up to: (1) 100,000 shares of common stock so long as the closing price is above $0.25; (2) 150,000 shares of common stock so long as the closing price is above $1.25; (3) 200,000 shares of common stock so long as the closing price is above $1.75 and (4) 300,000 shares of common stock so long as the closing price is above $2.25. The purchase price per share (the "Purchase Price") for each Purchase Notice is the lower of (i) the lowest sale price for the common stock on the date of sale or (ii) the arithmetic average of the three lowest closing sale prices for the common stock during the 12 consecutive business days ending on the business day immediately preceding the purchase date of those securities.

The timing and the number of shares covered by each Purchase Notice are determined in the Company's sole discretion, and the applicable Purchase Price will be determined prior to delivery of any Purchase Notice. The Company may deliver multiple Purchase Notices to Aspire Capital from time to time during the term of the Purchase Agreement, so long as the most recent purchase has been completed. There are no trading volume requirements or restrictions under the Purchase Agreement. Aspire Capital has no right to require any sales by the Company, but is obligated to make purchases as directed in accordance with the Purchase Agreement.

The Purchase Agreement contains customary representations, warranties, covenants, closing conditions and indemnification and termination provisions. The Purchase Agreement may be terminated by the Company at any time, at its discretion, without any cost or penalty. Aspire Capital has agreed not to cause, or engage in any manner whatsoever, any direct or indirect short selling or hedging of ISCO common stock. The Company did not pay any additional amounts to reimburse or otherwise compensate Aspire Capital in connection with the transaction. There are no limitations on use of proceeds, financial or business covenants, restrictions on future funding, rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement.

The Company's net proceeds will depend on the Purchase Price and volume and frequency of the Company's sales of shares to Aspire Capital; provided, however, that the maximum aggregate proceeds from sales of shares to Aspire Capital under the Purchase Agreement is $25 million. The Company anticipates that delivery of Purchase Notices will be made subject to market conditions, in light of the Company's capital needs from time to time and under the limitations contained in the Purchase Agreement. The Company expects to use proceeds from sales of shares to Aspire Capital for funding its research and development activities and for general corporate purposes and working capital requirements.

Registration Rights

In connection with the Purchase Agreement, the Company also entered into a Registration Rights Agreement (the "Registration Rights Agreement") with Aspire Capital, dated December 9, 2010. The Registration Rights Agreement provides, among other things, that the Company will register the resale of the commitment fee shares and the shares that have been or may be sold to Aspire Capital (collectively, the "Securities") by Aspire Capital. The Company further agreed to keep the Registration Statement effective and to indemnify Aspire Capital for certain liabilities in connection with the sale of the Securities under the terms of the Registration Rights Agreement.

During the years ended December 31, 2012 and 2011, the Company issued 5,000,000 and 4,000,000, respectively, shares of common stock to Aspire Capital, raising $2.1 million and $3.4 million, respectively, which was used to fund its research and operational activities.

Reserved Shares

At December 31, 2012, the Company had shares of common stock reserved for future issuance as follows:

Options outstanding	23,377,132
Options available for future grant	16,994,980
Convertible preferred stock	38,973,200
Warrants	3,500,000
	82,845,312

7. Related Party Transactions

Other than with respect to the purchases of Series C, Series D and Series G Preferred Stock discussed above, the Company's related party transactions were for related party dividends and for a facility lease.

Dividend amounts related to Series D and Series G financing, of $0 and $108,000 were accrued at December 31, 2012 and 2011 respectively, to be payable to X-Master, Inc. and AR Partners LLC, entities affiliated with our Chief Executive Officer and Co-Chairman of the Board of Directors, Dr. Andrey Semechkin and Dr. Ruslan Semechkin, Vice President of International Stem Cell and a director. The Series D dividends were payable to both X-Master, Inc. and our Chief Executive Officer and Co-Chairman of the Board of Directors, Dr. Andrey Semechkin, while Series G Preferred Stock dividends were initially cumulative and payable upon conversion of the Series G shares or upon certain Series G deemed liquidation events to AR Partners, LLC. On October 12, 2012, the Company and the holders of all of the outstanding shares of Series D and Series G Preferred Stock entered into the Waiver Agreement pursuant to which such holders irrevocably waived their right to receive any and all accrued but unpaid dividends and interest thereon on or after September 30, 2012 on the Series D and Series G Preferred Stock. Accordingly, the Company reversed all previously accreted and recorded dividends related to Series G Preferred Stock totaling $93,000. Under the Waiver Agreement, the holders of Series D and Series G Preferred Stock are restricted from transferring any shares of Series D Preferred Stock unless the transferee agrees to be bound by the Waiver Agreement.

During the first quarter of 2011, the Company executed an operating lease for our corporate offices with S Real Estate Holdings LLC. S Real Estate Holdings LLC is owned by Dr. Andrey Semechkin, the Company's Chief Executive Officer and Co-Chairman of the Board of Directors. The lease agreement was negotiated at arm's length and was reviewed by the Company's outside legal counsel. The terms of the lease were reviewed by a committee of independent directors, and the Company believes that, in total, those terms are at least as favorable to the Company as could be obtained for comparable facilities from an unaffiliated party. For the years ended December 31, 2012 and 2011, the Company recorded $113,000 and $106,000, respectively, in rent expense that was related to the facility lease arrangement with related parties.

8. Income Taxes

The Company accounts for income taxes in accordance with applicable authoritative guidance, which requires the Company to provide a net deferred tax asset/liability equal to the expected future tax benefit/expense of temporary reporting differences between book and tax accounting methods and any available operating loss or tax credit carryforwards. The Company has available at December 31, 2012, operating loss carryforwards of approximately $43,966,000, which may be applied against future taxable income and will expire in various years through 2032. At December 31, 2011, the Company had operating loss carryforwards of approximately $34,899,000. The increase in carryforwards for the year ended December 31, 2012 is approximately $9,067,000.

The amount of and ultimate realization of the benefits from the operating loss carryforwards for income tax purposes is dependent, in part, upon the tax laws in effect, the future earnings of the Company, and other future events, the effects of which cannot be determined at this time. Because of the uncertainty surrounding the realization of the loss carryforwards, the Company has established a valuation allowance equal to the tax effect of the loss carryforwards, R&D credits, and accruals; therefore, no net deferred tax asset has been recognized. A reconciliation of the statutory Federal income tax rate and the effective income tax rate for the year ended December 31, 2012 and 2011 follows:

	December 31, 2012	December 31, 2011
Statutory federal income tax rate	35%	35%
Permanent items	(8)%	(4)%
State income taxes, net of federal taxes	4%	7%
Change in valuation allowance	(30)%	(41)%
Tax credits claimed	1%	2%
Other	(2)%	1%
Effective income tax rate	0%	0%

The Company files income tax returns in the U.S. federal jurisdiction, and various states. 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 2007. The Company does not have any material uncertain tax positions as of December 31, 2012 and 2011. The Company does not believe it is reasonably possible that the total amount of unrecognized tax benefits as of December 31, 2012 will materially change in the next 12 months.

The Company may be subject to IRC code section 382 which could limit the amount of the net operating loss and tax credit carryovers that can be used in future years. The Company has not completed a study to assess whether an ownership change has occurred, as defined by IRC Section 382/383 or whether there have been multiple ownership changes since the Company's formation due to the complexity and cost associated with such a study, and the fact that there may be additional such ownership changes in the future. The Company estimates that if such a change did occur, the federal and state net operating loss carryforwards and research and development credits that can be utilized in the future will be significantly limited. There can be no assurance that the Company will ever be able to realize the benefit of some or all of the federal and state loss carryforwards or the credit carryforwards, either due to ongoing operating losses or due to ownership changes, which limit the usefulness of the loss carryforwards.

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

	December 31, 2012	December 31, 2011
Deferred tax assets (liabilities)		
Current deferred tax assets (liabilities)	$ 120	$ 148
Deferred revenues	—	113
Current deferred tax assets	$ 120	$ 261

	December 31, 2012	December 31, 2011
Valuation allowances	(120)	(261)
Net current deferred tax assets	$ —	$ —
Net operating loss carryforwards	$ 17,150	$ 14,590
Stock based compensation	2,532	1,862
Research and development tax credit	1,206	842
Other	10	—
Non-current deferred tax assets	$ 20,898	$ 17,294
Valuation allowances	(20,898)	(17,294)
Net non-current deferred tax assets	$ —	$ —
Non-current deferred tax liabilities	$ —	$ —
Net deferred tax assets	$ —	$ —

The components of the provisions for income taxes were as follows:

	December 31, 2012	December 31, 2011
Current	$ —	$ —
Deferred	—	—
Total	$ —	$ —

9. Stock Options and Warrants

Stock Options

The Company has adopted the 2006 Equity Participation Plan (the "2006 Plan"). The options granted under the 2006 Plan may be either qualified or non-qualified options. Up to 15,000,000 options may be granted to employees, directors and consultants under this Plan. Options may be granted with different vesting terms and expire no later than 10 years from the date of grant.

In April 2010, the Company adopted the 2010 Equity Participation Plan (the "2010 Plan"). The options granted under the 2010 Plan may be either qualified or non-qualified options. Up to 18,000,000 options may be granted to employees, directors and consultants under the 2010 Plan. Options may be granted with different vesting terms and expire no later than 10 years from the date of grant.

In November and December of 2009, the Company issued outside the 2006 and 2010 option plans non-qualified stock options to purchase 10,257,593 shares of common stock to certain employees and consultants. These options vest over 50 months and expire no later than 10 years from the date of grant.

In accordance applicable authoritative guidance, the Company is required to establish assumptions and estimates of the weighted-average fair value of stock options granted, as well as using a valuation model to calculate the fair value of stock-based awards. The Company uses the Black-Scholes option-pricing model to determine the fair-value of stock-based awards. All options are amortized over the requisite service periods. During the years ended December 31, 2012 and 2011, the Company recognized $2.36 and $3.54 million, as stock-based compensation expense, respectively. Unrecognized compensation expense related to stock options as of December 31, 2012 and 2011 was $3.37 and $7.45 million, respectively, which is expected to be recognized over a weighted average period of approximately 2.2 years and 2.9 years, respectively.

Stock-based compensation for stock options granted to non-employees has been determined using the estimated fair value of the stock options issued, based on the Black-Scholes Option Pricing Model. These options are revalued at each reporting period until fully vested, with any change in fair value recognized in the consolidated statements of operations.

The fair value of options granted is estimated at the date of grant using a Black-Scholes option-pricing model with the following weighted-average assumptions for the years ended December 31, 2012 and 2011:

	Year ended December 31, 2012	Year ended December 31, 2011
Significant assumptions (weighted-average):		
Risk-free interest rate at grant date	0.94%	1.81%
Expected stock price volatility	121.90%	81%

	Year ended December 31, 2012	Year ended December 31, 2011
Expected dividend payout	0%	0%
Expected option life-years based on management's estimate	5.69 years	6.13 years

	Options Outstanding			Options Exercisable and vested		
Exercise Prices	Number Outstanding	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price	Number Exercisable	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price
$0.22-$0.50	4,080,800	7.41	$ 0.41	2,239,220	5.86	$ 0.43
$0.51-$0.75	9,365,293	6.95	$ 0.62	6,782,943	6.90	$ 0.62
$0.76-$1.00	2,539,939	3.38	$ 0.99	2,399,939	3.07	$ 1.00
$1.01-$1.25	355,000	8.34	$ 1.10	227,900	8.34	$ 1.10
$1.26-$1.50	1,206,100	7.13	$ 1.31	777,100	6.88	$ 1.33
$1.51-$3.20	5,830,000	7.83	$ 1.94	2,980,800	7.69	$ 1.97
	23,377,132	6.89	$ 0.99	15,407,902	6.32	$ 0.95

Transactions involving stock options issued to employees, directors and consultants under the 2006 Plan, the 2010 Plan and outside the plans are summarized below. Options issued have a maximum life of 10 years. The following table summarizes the changes in options outstanding and the related exercise prices for the Company's common stock options issued:

	Number of Shares issued under 2006 Plan and 2010 Plan	Weighted Average Exercise Price Per Share
Outstanding at December 31, 2010	10,009,937	$ 0.92
Granted	6,997,500	$ 1.69
Exercised	(300,820)	$ 0.50
Canceled or expired	(1,976,410)	$ 1.17
Outstanding at December 31, 2011	14,730,207	$ 1.26
Granted	2,398,000	$ 0.38
Exercised	(17,500)	$ 0.22
Canceled or expired	(1,987,807)	$ 0.78
Outstanding at December 31, 2012	15,122,900	$ 1.18

	Number of Shares issued outside the Plan	Weighted Average Exercise Price Per Share
Outstanding at December 31, 2010	10,708,939	$ 0.64
Granted	—	$ —
Exercised	(454,170)	$ 0.59
Canceled or expired	(2,000,537)	$ 0.62
Outstanding at December 31, 2011	8,254,232	$ 0.65
Granted	—	$ —
Exercised	—	$ —
Canceled or expired	—	$ —
Outstanding at December 31, 2012	8,254,232	$ 0.65

Warrants

Brookstreet Securities Corporation

As of December 31, 2006, Brookstreet Securities Corporation ("Brookstreet") had earned 1,976,190 warrants as partial compensation for its services as placement agent for the raising of equity capital. An additional 274,000 warrants were earned by Brookstreet in the first quarter of 2007, for a total of 2,250,190 warrants related to the Company's private placement. In addition, 426,767 warrants were granted to a number of individuals as compensation for services rendered to the Company. Each Warrant entitles the holder thereof to purchase the number of shares of common stock that could be purchased by the dollar amount of the Warrant being exercised at $1.00 in the case of the Brookstreet warrants and $0.80 in the case of the individuals' warrants. The Company recognized the value attributable to the individuals' warrants in the amount of $222,000 and applied it to general and administrative expense. The Company recognized the value attributable to the Brookstreet warrants in the amount of $1.2 million. The Company recognized the Brookstreet warrants as a component of additional paid-in capital with a corresponding reduction in additional paid-in capital to reflect this as a non-cash cost of the offering. Proceeds from the private equity placement totaled $9.9 million and are offset by cash offering costs of $1.5 million as well as the non-cash offering cost of $1.2 million related to the fair value of the Brookstreet warrants. The Company valued the Brookstreet warrants and the warrants issued to the individuals using the Black-Scholes pricing model and the following assumptions: contractual terms of 5 years and 3 years, an average risk free interest rate of 4.58% and 5.13%, a dividend yield of 0% and 0%, and volatility of 71% and 63%, respectively.

The number of warrants converted into common stock by Brookstreet was 484,675 for the completion of the Brookstreet financing and issued 1,370,000 shares of common stock that was part of a private placement of securities by ISC California during the second half of 2006. The net proceeds from the shares whose sale was finalized in 2007 was $1.2 million net of cash fees and expenses. In connection with the final settlement in 2007, the selling agent for the private placement received 274,000 additional warrants, which entitle the holder thereof to purchase that number of shares of common stock for $1.00 each.

During 2008, the Company raised additional capital by issuing Preferred Series A, B, C and D stock. This issuance of the Preferred Series C triggered an anti-dilutive clause in the Brookstreet warrant agreement, where Brookstreet would receive an adjustment downward in the price it pays for converting its warrants and resulted in a deemed dividend of $337,000. Brookstreet earned a total of 2,250,190 warrants in 2006 and 2007 in connection with the Company's private placement. Each Warrant entitles the holder thereof to purchase one share of common stock for $1.00, revalued to $0.56 per warrant. The Company recognized the value attributable to the warrants in the amount of $1.2 million in 2006 and $169,000 in 2007 as a component of additional paid-in capital with a corresponding reduction in additional paid-in capital to reflect the issuance as a non-cash cost of the offering. Prior to 2009, the Company valued the Brookstreet warrants using the Black-Scholes pricing model and the following assumptions: contractual terms of 5 years, an average risk free interest rate of 4.58%, a dividend yield of 0%, and volatility of 70.57%. During 2009, the Company issued a total of 3,510,206 shares of common stock which related to warrants originally issued to Brookstreet. Brookstreet converted a total of 612,267 warrants into 484,675 shares of common stock at an average cashless conversion price of $0.56 per share.

Implementation of Accounting Standards Code (ASC) 815-40-15, (formerly known as EITF 07-5 "Determining Whether an Instrument (or Embedded Feature) is Indexed to an Entity's Own Stock Price")

The Accounting Standards Code (ASC) 815-40-15, with an effective date of December 15, 2008, should have been implemented as of January 1, 2009, and in future periods. This Issue applies to any freestanding financial instrument or embedded feature that has all the characteristics of a derivative as described in ASC 815-10-15-83, (previously paragraphs 6–9 of Statement 133) for purposes of determining whether that instrument or embedded feature qualifies for the first part of the scope exception in ASC 815-10-74 (previously paragraph 11(a) of Statement 133). This Issue also applies to any freestanding financial instrument that is potentially settled in an entity's own stock, regardless of whether the instrument has all the characteristics of a derivative for purposes of determining whether the instrument is within the scope of ASC 875-40.

During 2008, the Company issued a Series C Preferred round of financing which triggered the anti-dilution clause in the Brookstreet warrant agreement ("Brookstreet Warrants"). From issuing the Series C Preferred Stock, the exercise prices of the Brookstreet Warrants were revalued down to $0.56 per warrant. Based on the anti-dilution clause being triggered and the exercise price of the Brookstreet Warrants being revalued downward to $0.56, ASC 815-40-15 should have caused the Brookstreet Warrants to be treated and accounted for as a liability.

The anti-dilution provisions of the Brookstreet Warrants failed the criteria set by this ASC and therefore required reclassification from equity to liability. The reclassification resulted in the requirement to revaluate the Brookstreet Warrants at each reporting period with a corresponding charge or credit to the statement of operations. Valuation of the warrants was estimated using the Monte-Carlo simulation method using the following assumptions: stock price and warrant price as of the valuation date, the Company's historical stock price, interest rate on U.S. treasury notes, dividend rate derived from the Series D Preferred Stock, warrant expiration; simulated as a daily interval and anti-dilution impact if the Company had to raise capital below $0.25 per share. We recorded warrant liabilities of zero and $38,000 as of March 31, 2012 and 2011, respectively. In addition, in the three months ended March 31, 2012 and 2011, we recorded income of $38,000 and $871,000, respectively, in our consolidated statements of operations related to the change in the fair value of warrants.

The 1,721,629 Brookstreet Warrants outstanding as of December 31, 2011 expired on February 14, 2012, and the Company recorded $38,000 to reduce the fair market value of the warrants to zero as they were no longer outstanding as of December 31, 2012.

Warrants issued with other financings

During 2007 and 2008, the Company entered into various agreements to borrow working capital and as part of these agreements, the Company issued warrants to the holders to purchase common stock. The Company issued 1,629,623 warrants to various investors at an exercise price of $0.80 per share of which zero and 1,317,921 warrants remained outstanding at December 31, 2012 and December 31, 2011, respectively. In addition, 1,400,000 warrants were issued to YKA Partners, an affiliated company of our former Co-Chairman of the Board with an exercise price of $0.25 per share, all of which remained outstanding at December 31, 2012 and 2011.

Warrants issued with Preferred Stock

During 2008, in connection with the Company's fund raising efforts, two warrants to purchase shares of common stock were issued with the purchase of one share of Series A Preferred Stock, where an additional 2,000,000 common stock warrants were outstanding and two warrants to purchase shares of common stock were issued with the purchase of one share of Series B Preferred Stock, where an additional 1,100,000 common stock warrants were outstanding. As of December 31, 2010, 400,000 warrants related to the Series A Preferred Stock were converted into 800,000 common shares.

As of December 31, 2012 and 2011, there were 1,600,000 and 300,000 warrants related to the Series A Preferred Stock and Series B Preferred Stock, respectively, each at an exercise price of $0.25 per share. Warrants related to the Series A Preferred Stock expired in January 2013, and warrants related to the Series B Preferred Stock expire in July 2014.

Warrants issued to BioTime

During June 2008, the Company entered into an agreement with BioTime, Inc. ("BioTime"). Based on the agreement, BioTime agreed to pay the Company an advance of $250,000 to produce, make, and distribute joint products (as defined in that agreement). As part of the agreement, the Company issued warrants for Bio Time to purchase 30,000 shares of the Company's common stock at $0.25 per share. These warrants expired in December 2012.

Warrants issued in connection with SkinCare Marketing Agreement

In September 2011, the Company signed a Marketing Agreement ("agreement") with an effective date of June 30, 2011, with a third party marketing organization. According to the terms of the agreement as described in Note 10 below, Commitments and Contingencies, under Marketing Arrangement and Agreement, the third party marketing organization would provide assistance to LSC to sell its skin care products through various specific proprietary mailings. The agreement provides for two tranches of common stock warrants to be issued by the Company for the benefit of the third party marketing organization for 100,000 shares each, with strike prices of $1.50 and $2.00, respectively, vesting over four quarters, and a warrant term of five years.

Accordingly, there were warrants for 100,000 shares of common stock at a strike price of $1.50 vested as of December 31, 2011 in connection with the agreement. In addition, as of December 31, 2012, there were 100,000 warrants vested with a strike price of $2.00. The Company valued the warrants issued in connection with the SkinCare Marketing Agreement using the Black-Scholes pricing model and the following assumptions: contractual terms of 5 years, an average risk free interest rate of 0.94%, a dividend yield of 0%, and volatility of 134%.

Share data related to warrant transactions as of December 31, 2012 were as follows:

	Series A	Series B	YKA Loan	BioTime	Bridge Loan & non-cash Grants	Brookstreet	Skin Care Marketing	Total Shares Issuable Upon Exercise of Warrants	Price per Share Range	Weighted average exercise price
Outstanding, December 31, 2010	1,600,000	500,000	1,400,000	30,000	1,380,721	1,760,157	—	6,670,878	$ 0.25-0.80	$ 0.45
2011										
Issued							200,000	200,000	1.50-2.00	1.75
Exercised		(200,000)			(62,800)	(38,528)		(301,328)	0.25-0.80	0.40
Forfeited/Expired								—		
Outstanding, December 31, 2011	1,600,000	300,000	1,400,000	30,000	1,317,921	1,721,629	200,000	6,569,550	$ 0.25-2.00	$ 0.49
2012										
Issued								—		
Exercised								—		
Forfeited/Expired				(30,000)	(1,317,921)	(1,721,629)		(3,069,550)	$ 0.56-0.80	$ 0.66
Outstanding, December 31, 2012	1,600,000	300,000	1,400,000	—	—	—	200,000	3,500,000	$ 0.25-2.00	$ 0.34

10. Commitments and Contingencies

Leases

We have established our primary research facility in 8,215 square feet of leased office and laboratory space in Oceanside, California. Our lease for this facility expires in August 2016. The base rent as of December 31, 2012 was $8,338 per month. The facility has leasehold improvements which include cGMP (current Good Manufacturing Practices) level clean rooms designed for the derivation of clinical-grade stem cells and their differentiated derivatives, research laboratories for our stem cell differentiation studies and segregated rooms for biohazard control and containment of human donor tissue. The monthly base rent will increase by 3% annually on the anniversary date of the agreement.

During 2010 we utilized a 3,240 square foot laboratory in Walkersville, Maryland. Our lease for this facility expired in March 2011, and we moved into a new manufacturing facility in Frederick, Maryland which we use for laboratory and administrative purposes. The base rent as of December 31, 2012 was $11,306. The initial lease term expires December 31, 2015 and there is an option for an additional five years.

On February 25, 2011, the Company entered into a lease agreement (the "Lease Agreement") with S Real Estate Holdings LLC to allow the Company to expand into new corporate offices located at 5950 Priestly Drive, Carlsbad, California. The new building is used for administrative purposes, but could also be used for research and development purposes if such space is needed in the future. The lease covers approximately 4,653 square feet, which was occupied on or about March 1, 2011. The lease expires on February 29, 2016, subject to the Company's right to extend the term for up to five additional years. The Company began rent payments in March 2011 once it occupied the facilities, at an initial rate of $5,118 per month. The lease was amended effective July 2011 to account for additional square footage occupied by Company personnel. As such, the initial monthly rate was increased to $9,018 per month. In addition, the monthly base rent will increase by 3% annually on the anniversary date of the agreement. The base rent as of December 31, 2012 was $9,289. The Company is also obligated to pay a portion of the utilities for the building and increases in property tax and insurance. In addition, the Company will pay its proportionate share of the CC&R fees.

S Real Estate Holdings LLC is owned by Dr. Andrey Semechkin, the Company's Chief Executive Officer and Co-Chairman of the Board of Directors. The Lease Agreement was negotiated at arm's length and was reviewed by the Company's outside legal counsel. The terms of the lease were reviewed by a committee of independent directors, and the Company believes that, in total, those terms are consistent with the terms that could be obtained for comparable facilities from an unaffiliated party.

Future minimum lease payments required under operating leases that have initial or remaining non-cancelable lease terms in excess of one year as of December 31, 2012, are as follows (in thousands):

	Amount
2013	367
2014	363
2015	372
2016	97
2017	3
Total	$ 1,202

Marketing Arrangement and Agreement

The Company signed a Term Sheet ("arrangement") in late 2010 with a third party marketing organization that would serve as a consultant and assist in marketing for Lifeline Skin Care, Inc., ("LSC") a wholly-owned subsidiary of International Stem Cell, to sell its skin care products through various proprietary mailings. As part of the arrangement, there were various phases and objectives to accomplish, one of which was the potential formation of a joint venture in the future between the parties. Based on the arrangement, LSC paid to the marketing organization 40% of net profits (as defined in the arrangement) generated from the proprietary mailings.

In September 2011, the Company signed a Marketing Agreement ("agreement") with an effective date of June 30, 2011, superseding the terms of the arrangement with the third party marketing organization. According to the agreement, the third party marketing organization will continue to provide assistance to LSC to sell skin care products through various specific proprietary mailings. In exchange for such services, the Company will pay 20% of net revenues for Direct Sales (as defined in the agreement) generated from the proprietary mailings. In addition, the Company agreed to pay 10% of net revenues for Referral Sales. The agreement specifies that the parties do not intend to create a joint venture, and that either party may terminate the agreement upon 30-day written notice. In addition, the agreement provides for two tranches of common stock warrants to be issued by the Company for the benefit of the third party marketing organization for 100,000 shares each, with strike prices of $1.50 and $2.00, respectively, with vesting over four quarters, and warrant term of five years. Subsequently in July 2012, we renegotiated the commission structure to reflect slightly lower rates, 18% on net revenues derived from direct sales and 9% on net revenues derived from referral sales. For the month of December 2012, the commission rate was temporarily increased to 25% on net revenues derived from direct sales on qualifying volume of orders. The Company recognized $73,000, and $75,000 in stock-based compensation from warrants issued for services during the years ended December 31, 2012 and 2011, respectively.

LSC incurred $149,000 and $430,000 as marketing expenses during the years ended December 31, 2012 and 2011, respectively, under the terms of this arrangement and agreement.

Customer Concentration

During the year ended December 31, 2012, one major customer accounted for 13% of our consolidated revenues. During the year ended December 31, 2011, one major customer accounted for approximately 13% of our consolidated revenues, and another major customer accounted for approximately 11% of our consolidated revenues. No other single customer accounted for more than 10% of our revenues for any period presented.

11. Subsequent Events

Amended License Agreements

On February 7, 2013 the Company and Advanced Cell Technology, Inc. ("ACT") entered into Amended and Restated License Agreements (the "Amendment") for the purpose of completely amending and restating the terms of the three Exclusive License Agreements ("ACT IP," "Infigen IP," and "UMass IP" or collectively "Exclusive License Agreement"), as amended on August 25, 2005. Under the terms of the Amendment the Company acquired exclusive world-wide rights to all human therapeutic uses and cosmetic uses from ACT and Infigen's early work on parthenogenic-derived embryonic stem cells, as well as certain rights to patents covering Single Blastomere technology. Pursuant to the Amendment all minimum R&D requirements and all milestone payments due to ACT under the Exclusive License Agreement have been eliminated. The Company will no longer pay any royalties under the ACT IP Agreement and Infigen IP Agreement, and its obligation to pay royalties that ranged from 6%-12% under the UMass IP Agreement has been reduced to 0.25% of the net sales of products using technology covered by the UMass IP Agreement.

Securities Purchase Agreements and Related Transactions

On January 22, 2013, to obtain funding for working capital purposes, the Company entered into a Securities Purchase Agreement (the "January 2013 Purchase Agreement") with Dr. Andrey Semechkin and Dr. Simon Craw to sell a total of 10,125,000 shares of common stock at a price of $0.20 per share, for a total purchase price of $2,025,000. Dr. Andrey Semechkin is the Company's Co-Chairman and Chief Executive Officer. Dr. Simon Craw is the Company's Executive Vice President Business Development. The sale of the shares of common stock was completed on January 22, 2013. In connection with the sale of these shares the Company issued to each purchaser a warrant, exercisable for a period of 5 years, to purchase (at an exercise price of $0.20 per share) a number of shares of common stock equal to 50% of the shares purchased by that purchaser, for a total of 5,062,500 shares subject to the warrants.

Immediately before the sale of the shares and warrants under the January 2013 Purchase Agreement described above, the Company issued an additional 8,000,000 shares of common stock upon conversion of all outstanding shares of Series C Preferred Stock held by one investor.

On March 12, 2013, to obtain funding for working capital purposes, the Company entered into a Securities Purchase Agreement (the "March 2013 Purchase Agreement") with certain investors, including Dr. Andrey Semechkin, to sell a total of 5,000,000 shares of common stock at a price of $0.20 per share, for a total purchase price of $1,000,000. Dr. Andrey Semechkin is the Company's Co-Chairman and Chief Executive Officer and purchased $100,000 worth of common stock. Each of the other investors has had a long-standing relationship with the Company and has closely followed the Company. The sale of the shares of common stock was completed on March 12, 2013. In connection with the sale of these shares the Company issued to each investor a warrant, exercisable for a period of five years, to purchase (at an exercise price of $0.20 per share) a number of shares of common stock equal to 50% of the shares purchased by that investor, for a total of 2,500,000 shares subject to the warrants.

Additional Financing from Aspire Capital Fund, LLC

Under our Common Stock Purchase Agreement with Aspire Capital Fund, LLC ("Aspire Capital"), we may sell from time to time up to an aggregate of $25.0 million of shares of common stock through approximately January 2014. From commencement through December 31, 2012, we sold a total of 9,333,333 shares of common stock to Aspire Capital for an aggregate of $5,942,000. In addition, from January 1, 2013 through March 15, 2013, we sold an additional 1,200,000 shares to Aspire Capital for an aggregate of $264,000.

Exhibit 10.43

STANDARD MULTI-TENANT OFFICE LEASE — GROSS
AMENDMENT TO LEASE DATED 2-19-2011
BETWEEN S REAL ESTATE HOLDINGS LLC AND ISCO

The following paragraphs of the lease are amended July 1, 2011, as follows:

1.2(a) Premises: The square footage is increased to 8,199 Sq. Feet.

1.2(b) Parking: The parking spaces will increase to 29 unreserved and 4 reserved.

1.5 Base Rent: Base rent increases to $ 9,018.59.

1.6 Lease's Share of Operating Expense Increase: Percentage increases to 48.07%

All other provisions of the lease remain unchanged.

LESSEE:

INTERNATIONAL STEM CELL CORPORATION, A CALIFORNIA CORPORATION

/s/ Linh Nguyen
Linh Nguyen CFO

Date:11/21/2011

LESSOR:

S REAL ESTATE HOLDING LLC

/s/ Ruslan Semechkin
Ruslan Semechkin

Date: 11/21/2011

EXHIBIT 23.1

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Prospectus constituting a part of the Registration Statements on Form S-8 (Nos. 333-169549, 333-166883, 333-166421, 333-166420, 333-164539, 333-159424, 333-159421 and 333-150920), on Form S-3 (No. 333-171233) and on Form S-1 (Nos. 333-184493 and 333-171233) of our report dated March 25, 2013, (which includes an explanatory paragraph relating to the uncertainty of the Company's ability to continue as a going concern) relating to the consolidated financial statements of International Stem Cell Corporation and Subsidiaries (the Company), a development stage company, as of and for the years ended December 31, 2012 and 2011 and for the period from inception (August 17, 2001) to December 31, 2012, which report is included in this Annual Report on Form 10-K.

/s/ Mayer Hoffman McCann P.C.

MAYER HOFFMAN MCCANN P.C.
San Diego, California
March 25, 2013

Exhibit 23.2

To the Board of Directors and Stockholders

International Stem Cell Corporation and Subsidiaries

Oceanside, California

We hereby consent to the incorporation by reference in the Prospectus constituting a part of the Registration Statements on Form S-8 (Nos. 333-166420, 333-166421, 333-166883, 333-169549, 333-164539, 333-150920, 333-159424 and 333-159421), on Form S-3 (No. 333-171233) and on Form S-1 (Nos. 333-184493 and 333-171233) of our report dated March 24, 2011 (except for notes 1, 2 and 10, as to which the date is June 22, 2011) of International Stem Cell Corporation and subsidiaries (the Company), a development stage company, relating to the consolidated balance sheet as of December 31, 2010, and the related consolidated statements of operations, members' deficit and stockholders' equity and cash flows for the year then ended and for the period from inception (August 17, 2001) to December 31, 2010.

/s/ Vasquez & Company LLP

Los Angeles, California

March 25, 2013

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, Andrey Semechkin, certify that:

1. I have reviewed this annual report on Form 10-K of International Stem Cell Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the periods covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the period presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 25, 2013

/s/ Andrey Semechkin

Andrey Semechkin

Chief Executive Officer

(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, Linh T. Nguyen, certify that:

1. I have reviewed this annual report on Form 10-K of International Stem Cell Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the periods covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the period presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 25, 2013

/s/ Linh T. Nguyen

Linh T. Nguyen

Chief Financial Officer

(Principal Financial and Accounting Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of International Stem Cell Corporation (the "Company") on Form 10-K for the year ended December 31, 2012 as filed with the Securities and Exchange Commission on March 25, 2013 (the "Report"), I, Andrey Semechkin, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 25, 2013

/s/ Andrey Semechkin
Andrey Semechkin
Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of International Stem Cell Corporation (the "Company") on Form 10-K for the year ended December 31, 2012 as filed with the Securities and Exchange Commission on March 25, 2013 (the "Report"), I, Linh T. Nguyen, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 25, 2013

/s/ Linh T. Nguyen
Linh T. Nguyen
Chief Financial Officer
(Principal Financial and Accounting Officer)