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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

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

For the fiscal year ended December 31, 2011

or

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

COMMISSION FILE NUMBER 0-19871

STEMCELLS, INC.

(Exact name of Registrant as specified in its charter)

A Delaware Corporation	**94-3078125**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
7707 GATEWAY BLVD NEWARK, CA	**94560**
(Address of principal offices)	**(zip code)**

Registrant's telephone number, including area code:
(510) 456-4000

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $0.01 par value	NASDAQ Global Market
Junior Preferred Stock Purchase Rights	

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

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

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

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

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

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

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

Large accelerated filer	☐	Accelerated filer	☒
Non-accelerated filer	☐ (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 ☒

Aggregate market value of common stock held by non-affiliates at June 30, 2011: $72,494,157. Inclusion of shares held beneficially by any person should not be construed to indicate that such person possesses the power, direct or indirect, to direct or cause the direction of management policies of the registrant, or that such person is controlled by or under common control with the Registrant.

Common stock outstanding at March 2, 2012: 23,294,881 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement relating to the registrant's 2011 Annual Meeting of Stockholders to be filed with the Commission pursuant to Regulation 14A are incorporated by reference in Part III of this report.

FORWARD LOOKING STATEMENTS

THIS REPORT CONTAINS FORWARD-LOOKING STATEMENTS AS DEFINED UNDER THE FEDERAL SECURITIES LAWS. ACTUAL RESULTS COULD VARY MATERIALLY. FACTORS THAT COULD CAUSE ACTUAL RESULTS TO VARY MATERIALLY ARE DESCRIBED HEREIN AND IN OTHER DOCUMENTS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION. READERS SHOULD PAY PARTICULAR ATTENTION TO THE CONSIDERATIONS DESCRIBED IN THE SECTION OF THIS REPORT ENTITLED “MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS” AS WELL AS ITEM 1A UNDER THE HEADING “RISK FACTORS.”

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NOTE REGARDING REFERENCES TO OUR COMMON STOCK

Throughout this Form 10-K, the words "we," "us," "our," and "StemCells" refer to StemCells, Inc., including our directly and indirectly wholly-owned subsidiaries. "Common stock" refers to the common stock of StemCells, Inc., $0.01 par value.

PART I

Item 1. *BUSINESS*

Overview

StemCells, Inc. is engaged in the research, development, and commercialization of stem cell therapeutics and related tools and technologies for academia and industry. We believe that understanding cells and cell biology, and in particular stem cells, will play an increasingly important role in the understanding of human diseases and in the discovery of new medical therapies. Consequently, we are focused on developing and commercializing (i) stem and progenitor cells as the basis for novel therapeutics and therapies, and (ii) cells and related tools and technologies to enable stem cell-based research and drug discovery and development.

Our primary research and development efforts are focused on identifying and developing stem and progenitor cells as potential therapeutic agents. We currently have two therapeutic product development programs: (i) our CNS Program, which is developing applications for HuCNS-SC ® cells, our proprietary human neural stem cell product candidate, and (ii) our Liver Program, which is characterizing our proprietary human liver cells as a potential therapeutic product. We estimate that degenerative conditions of the central nervous system (CNS) and the liver together currently affect more than 35 million people in the United States.(1)

In our CNS Program, we are in clinical development with our HuCNS-SC cells for a range of disorders of the central nervous system. The CNS includes the brain, spinal cord and eye, and we are currently the only stem cell company in clinical development for indications in all three organs comprising the CNS, specifically:

(i) with respect to the brain,

- in February 2012, we completed a Phase I clinical trial in Pelizeaus-Merzbacher Disease (PMD), a fatal myelination disorder in the brain, and we expect to report final data from this study in late March 2012; in November 2011, we announced interim data from this study, including MRI analysis of one patient which shows changes consistent with the early development of new myelin in the regions in which our HuCNS-SC cells were transplanted;
- previously, we completed a Phase I clinical trial in infantile and late infantile neuronal ceroid lipofuscinosis (NCL, also often referred to as Batten disease), which is a neurodegenerative disorder of the brain, and data from that trial showed that our HuCNS-SC cells were well tolerated, non-tumorigenic, and there was evidence of engraftment and long-term survival of the transplanted HuCNS-SC cells; and
- we are also conducting preclinical studies of our HuCNS-SC cells in Alzheimer's disease,

(ii) with respect to the spinal cord, we are conducting a Phase I/II clinical trial of our HuCNS-SC cells in Switzerland for the treatment of chronic spinal cord injury, and we completed the enrollment and dosing of the first patient cohort in December 2011, and

(iii) with respect to the eye, in January 2012, we received authorization from the U.S. Food and Drug Administration (FDA) to conduct a Phase I/II clinical trial for dry age-related macular degeneration (AMD), the most common form of AMD.

In our Liver Program, we are focused on identifying and developing liver cells as potential therapeutics for a range of liver diseases. We have identified a subset of our human liver engrafting cells (hLEC) which we believe

(1) This estimate is based on information from the Alzheimer's Association, the Alzheimer's Disease Education & Referral Center (National Institute on Aging), the National Parkinson Foundation, the National Institutes of Health's National Institute on Neurological Disorders and Stroke, the Foundation for Spinal Cord Injury Prevention, Care & Cure, the Travis Roy Foundation, the Centers for Disease Control and Prevention, the Wisconsin Chapter of the Huntington's Disease Society of America, the American Liver Foundation, and the Cincinnati Children's Hospital Medical Center.

may be a candidate for product development. In October 2011, we formed a wholly-owned subsidiary to focus on both the therapeutic and research tool applications of our hLEC technologies and to serve as an investment vehicle for those interested in a "pure play" liver cell company.

In our tools and technologies programs, we are engaged in developing and commercializing applications of our technologies to enable stem cell-based research. We currently market a range of proprietary cell culture products and antibody reagents under the SC Proven ® brand. Our cell culture products include iSTEM®, GS1-R®, GS2-M® , RHB-A®, RHB-Basal® , NDiff® N2B27, NDiff® N2 and NDiff N27 supplements. Our antibody reagents include STEM24™, STEM101®, STEM121®, and STEM123®, which can be used for cell detection, isolation and characterization. Academic and industrial laboratories conducting stem cell research need specialized cell culture products and reagents for the derivation, growth, maintenance, and manipulation of stem cells, as well as their detection, isolation and characterization in both *in vitro* and *in vivo* models. As this type of research continues to grow, the market for such cell culture products and reagents should also continue to expand. We are seeking to leverage our proprietary technologies, including technologies relating to embryonic stem cells, induced pluripotent stem (iPS) cells, and tissue-derived (adult) stem cells, for use in stem cell-based research. Several of the cell technologies and intellectual property related to our enabling cell technologies programs were acquired in April 2009 through our acquisition of substantially all of the operating assets and liabilities of Stem Cell Sciences Plc (SCS).

The Potential of Our Tissue-Derived Cell-Based Therapeutics

Stem cells are "building block" cells as they produce all the mature functional cell types found in normal organs. Stem cells have two defining characteristics: (i) they produce all of the mature cell types of the particular organ, and (ii) they self renew — that is, some of the cells developed from stem cells are themselves new stem cells. Progenitor cells are cells that have already developed from stem cells, but can still produce one or more mature cell types within an organ. Stem cells are rare; to date only four human stem cells have been identified and characterized *in vivo*: (i) the hemotopoietic stem cell, (ii) the mesenchymal stem cell, (iii) the neural stem cell, and (iv) the embryonic stem cell. Because of this self-renewal property, we believe that stem cell-based therapies may have the potential to return an impaired organ to proper function for the life of the patient.

Many degenerative diseases are caused by the loss of normal cellular function in a particular organ. When cells are damaged or destroyed, they no longer produce, metabolize or accurately regulate the many substances essential to life. There is no technology existing today that can deliver these essential substances precisely to the sites of action, under the appropriate physiological regulation, in the appropriate quantity, or for the duration required to cure the degenerative condition. Cells, however, can do all of this naturally. Transplantation of stem or progenitor cells may therefore prevent the loss of, or even generate new, functional cells and thereby potentially maintain or restore organ function and the patient's health.

We are focused on identifying and purifying tissue-derived stem and progenitor cells for use in homologous therapy. Homologous therapy means the use of cells derived from a particular organ to treat a disease of that same organ (for example, use of brain-derived neural stem cells for treatment of CNS disorders and liver-derived cells for treatment of liver disorders). Tissue-derived stem cells are developmentally pre-programmed to become the mature functional cells of the organ from which they were derived. We believe that homologous use of purified, unmodified tissue-derived cells is the most direct way to provide for engraftment and differentiation into functional cells, and should minimize the risk of transplantation of unwanted cell types.

We use cells derived from donated fetal or adult tissue sources, which are supplied to us in compliance with all applicable state and federal regulations. We are not involved in any activity directed toward human cloning, nor do we have any plans to start such activities. We are currently developing embryonic stem cells and iPS cells as potential research tools. We are not currently developing embryonic or induced pluripotent stem cells for therapeutic use, although we may in the future explore their applicability as cell-based therapeutic products.

Business Strategy

Our aim is to create a sustainable business based on our belief that understanding cells and cell biology will play an increasingly important role in life science research and in the discovery, development and implementation of new medical therapies. Our primary strategy is to identify multiple types of human stem and progenitor cells with therapeutic and commercial importance, to develop techniques and processes to purify these cells for direct transplant and to expand and bank these cells, to advance these cells into clinical development and ultimately, to commercialize them as cell-based therapeutic products.

The fundamental competencies required to execute this strategy are knowledge and expertise in cell biology, particularly stem cell biology, and a commitment to rigorous and robust research and development. We believe that these competencies are critical to identifying, characterizing and understanding cells with therapeutic potential and importance.

Consequently, we have made significant investments in our research and development, clinical and regulatory, and cell processing and process development capabilities. Our management and staff have many years of experience in the stem cell field and in developing potential cell therapies. Two of the four human stem cells identified and characterized to date (the hematopoietic and neural stem cells) were discovered by scientists who are currently on our staff, and we believe we were the first company to receive authorization from the FDA to conduct a clinical trial of a purified neural stem cell product candidate, as well as the first to complete such a clinical trial. We are committed to proving that “groundbreaking science,” especially in the field of stem cell biology, has the potential to create truly “breakthrough medicine.”

Many of our core competencies in cell biology have applicability beyond the development of therapeutic products. Therefore, another element of our business strategy is to leverage these core competencies to develop non-therapeutic applications for our cell technologies, which we believe represent nearer-term commercial opportunities. As scientific and medical research increasingly focuses on stem cells and cell biology, our technologies are expected to have utility as tools to help enable this research. We currently market specialized cell culture products and antibody reagents through our SC Proven product line and are seeking to develop and commercialize applications of our technologies for use in stem cell-based research.

Further, a key element of our business strategy is to obtain patent protection for the compositions, processes and uses of multiple types of cells, as well as for those technologies that appear applicable and useful to enable cell-based research. We believe that patent protection will be available to the first to identify and isolate any of the finite number of different types of human stem and progenitor cells, and the first to define methods to culture such cells, making the commercial development of cell-based therapeutics and enabling applications financially feasible. In addition to discovering and developing technologies in-house, we have obtained from various academic and commercial institutions rights to certain inventions relating to stem and progenitor cells, cell culture media, and technologies to reprogram, isolate and manipulate cells. We expect to continue to expand our search for, and to seek to acquire rights from third parties relating to, new stem and progenitor cells and cell technologies. We have created an extensive patent estate, see “Patents, Proprietary Rights and Licenses,” below.

Therapeutic Product Development Programs

Overview

The following table summarizes the current status of, and the anticipated initial indications for, our two therapeutic product development programs. A more detailed discussion of each of these follows the table.

CNS Program	**Cell-based therapeutics to restore or preserve function to central nervous system tissue by protecting, repairing or replacing dysfunctional or damaged cells.**

Diseases and Disorders of the Brain	Pelizeaus-Merzbacher Disease:
	• Four-patient Phase I clinical trial completed February 2012. Data expected to be reported in late March 2012.
	• Interim data from this Phase I trial, including MRI data, showed changes consistent with the early development of new myelin.
	• Demonstrated *in vivo* proof of principle by showing in the myelin deficient shiverer mouse that transplanted HuCNS-SC cells can:
	  • generate and integrate myelin producing oligodendrocytes into the mouse brain; and
	  • tightly wrap the mouse nerve axons to form myelin sheath.
	Neuronal Ceroid Lipofuscinosis (also known as Batten disease):
	• Six-patient Phase I clinical trial completed in January 2009. Trial results show HuCNS-SC cells well tolerated and not tumorigenic, and that there was evidence of engraftment and survival of the transplanted cells.
	• Demonstrated *in vivo* proof of principle by showing in a mouse model for infantile NCL that transplanted HuCNS-SC cells can:
	  • continuously produce the enzyme that is deficient in infantile NCL;
	  • protect host neurons from death; and
	  • delay the loss of motor function in HuCNS-SC transplanted mice.
	Alzheimer's Disease:
	• Entered into a collaboration in April 2011 to study the therapeutic potential of our HuCNS-SC cells in Alzheimer's disease. Earlier findings show that mouse neural stem cells can enhance memory in a mouse model of Alzheimer's disease.

- Demonstrated that our HuCNS-SC cells are capable of engrafting and surviving in the hostile environment reflective of an Alzheimer's brain, which characteristically features abnormal accumulations of brain lesions called plaques and tangles.

Diseases and Disorders of the Spinal Cord

Spinal Cord Injury:

- Conducting 12-patient Phase I/II clinical trial in Switzerland for chronic spinal cord injury, including both complete and incomplete injuries. First patient cohort enrollment completed December 2011.
- Demonstrated *in vivo* proof of principle by showing in a mouse model for spinal cord injury that transplanted HuCNS-SC cells can:
  - restore motor function in injured animals;
  - directly contribute to functional recovery (and that when human cells are ablated restored function is lost); and
  - become specialized oligodendrocytes and neurons.

Diseases and Disorders of the Eye

Age-Related Macular Degeneration:

- 16-patient Phase I/II clinical trial authorized by FDA in January 2012.
- Demonstrated *in vivo* proof of principle by showing in the Royal College of Surgeons rat, a widely accepted model for retinal degeneration, that HuCNS-SC cells can:
  - protect photoreceptor cells from death; and
  - prevent or slow loss of vision.

Liver Program

Cellular therapy to restore function to liver tissue by replacing dysfunctional or damaged cells.

- Demonstrated *in vivo* engraftment and survival of hLEC in a mouse model of liver degeneration.
- Detected human serum albumin and alpha-1-antitrypsin in serum of transplanted animals.
- Demonstrated the generation of key structural elements of the liver, the bile canaliculi, that are required for bile transport.
- Identified cell surface markers and methods for selection of hLEC from livers of a broad range of age and quality, including livers deemed not suitable for transplantation.
- Identified a subset of hLEC that may be a candidate for product development.

CNS Program

Many neurodegenerative diseases involve the failure of central nervous system tissue (i.e., the brain, spinal cord and eye) due to the loss of functional cells. Our CNS Program is initially focusing on developing clinical applications in which transplanting HuCNS-SC cells would protect or restore organ function of the patient before such function is irreversibly damaged or lost due to disease progression. Our initial target indications are (i) Pelizeaus-Merzbacher Disease, and more generally, diseases in which deficient myelination plays a central role, such as cerebral palsy or multiple sclerosis; (ii) spinal cord injury, (iii) disorders in which retinal degeneration plays a central role, such as age-related macular degeneration or retinitis pigmentosa. These disorders affect a significant number of people in the United States and there currently are no effective long-term therapies for them.

Our lead product candidate, HuCNS-SC cells, is a purified and expanded composition of normal human neural stem cells. Alternative therapies based on cells derived from cancer cells, embryonic stem cells, iPS cells, animal-derived cells, or unpurified mixes of cell types have a significantly higher safety hurdle to overcome and while they may provide an effective therapy, technologies to remove potentially harmful cells are still being developed and tested. Furthermore, our HuCNS-SC cells can be directly transplanted, unlike embryonic stem cells or iPS cells, which require one or more prerequisite differentiation steps prior to administration in order to preclude teratoma formation (tumors of multiple differentiated cell types). It is still unclear whether cellular transplants derived from embryonic stem cells or iPS cells can avoid forming teratomas or other abnormal cellular structures due to contaminating cell types in the transplant product.

Our preclinical research has shown *in vivo* that HuCNS-SC cells engraft, migrate, differentiate into neurons and glial cells, and survive for as long as one year with *no sign* of tumor formation or adverse effects. Moreover, the HuCNS-SC cells were still producing progeny cells at the end of the test period. These findings show that our neural stem cells, when transplanted, act like normal neural stem cells, suggesting the possibility of a continual replenishment of normal human neural cells in transplant recipients. In the longer term, then, we believe stem cells have the potential to restore or replace lost cells and cellular function.

We hold a substantial portfolio of issued and allowed patents in the neural stem cell field, which cover the isolation, expansion and use of neural stem and progenitor cells, as well as the compositions of the cells themselves. See “Patents, Proprietary Rights and Licenses,” below.

Diseases and Disorders of the Brain

Pelizaeus-Merzbacher Disease (PMD).

Pelizaeus-Merzbacher Disease, a rare, degenerative, central nervous system disorder, is one of a group of genetic disorders known as leukodystrophies. Leukodystrophies involve abnormal growth of the myelin sheath, which is the fatty substance that surrounds nerve fibers in the brain and spinal cord. PMD is most commonly caused by a genetic mutation that affects an important protein found in myelin, proteolipid protein. PMD is most frequently diagnosed in early childhood and is associated with abnormal eye movements, abnormal muscle function, and in some cases, seizures. The course of the disease is marked by progressive neurological deterioration resulting in premature death.

In February 2012, we completed a Phase I clinical trial in PMD. A total of four patients were transplanted with HuCNS-SC cells and were evaluated periodically over a 12-month period. The study is designed to help detect evidence of new myelin, including by magnetic resonance imaging (MRI) of the brain, changes in neuropsychological tests of development and cognitive function, and clinical changes in neurological function. In November 2011, we reported interim data from this study, including MRI analysis of a patient which shows changes consistent with the early development of new myelin in the regions in which the clinical investigators transplanted our HuCNS-SC cells. Data from the completed Phase I trial are expected to be announced in late March 2012. The trial was conducted at the University of California, San Francisco (UCSF) Children’s Hospital.

In our preclinical research, we have shown that HuCNS-SC cells differentiate into oligodendrocytes, the myelin producing cells, and produce myelin. We have transplanted HuCNS-SC cells into the brain of the mutant shiverer mouse, which is deficient in myelin, and shown widespread engraftment of human cells that matured into oligodendrocytes, and that the human oligodendrocytes myelinated the mouse axons.

Other Myelin Disorders.

Loss of myelin characterizes conditions such as multiple sclerosis, cerebral palsy and certain genetic disorders (for example, Krabbe's disease and metachromatic leukodystrophy). Loss of myelin can also play a role in certain spinal cord indications. Based on our preclinical data, we believe our HuCNS-SC product candidate may have applicability to a range of myelin disorders.

Neuronal Ceroid Lipofuscinosis (NCL; also known as Batten disease).

Neuronal ceroid lipofuscinosis (NCL), which is often referred to as Batten disease, is a neurodegenerative disease that affects infants and young children. Infantile and late infantile NCL are brought on by inherited genetic mutations which result in either a defective or missing enzyme, leading to the accumulation of cellular waste product in various neuronal cell types. This accumulation eventually interferes with normal cellular and tissue function, and leads to seizures and progressive loss of motor skills, sight and mental capacity. Today, NCL is always fatal.

We completed a six-patient Phase I clinical trial of our HuCNS-SC cells in infantile and late infantile NCL in January 2009. We believe that this clinical trial was the first FDA-authorized trial to evaluate purified human neural stem cells as a potential therapeutic agent. Overall, the trial data demonstrated that the HuCNS-SC cells, the transplantation procedure and the immunosuppression regimen were well tolerated by all six patients, and the patients' medical, neurological and neuropsychological conditions, following transplantation, appeared consistent with the normal course of the disease. In addition to this favorable safety profile, there was evidence of engraftment and long-term survival of the HuCNS-SC cells. This Phase I trial was conducted at OHSU Doernbecher Children's Hospital.

In October 2010, we initiated a Phase Ib clinical trial in infantile and late infantile NCL at OHSU in order to evaluate the safety and preliminary efficacy our HuCNS-SC cells in patients in earlier stages of the disease. However, in April 2011, despite diligent efforts to identify and enroll eligible patients, we discontinued the trial due to lack of patient accrual.

Our preclinical data demonstrate that HuCNS-SC cells, when transplanted in a mouse model of infantile NCL, engraft, migrate throughout the brain, produce the relevant missing enzyme, measurably reduce the toxic storage material in the brain, protect host neurons so that more of them survive, and delay the loss of motor function compared to a control group of non-transplanted mice. A summary of this data was published in September 2009 in the peer-reviewed journal *Cell Stem Cell.* We have also demonstrated *in vitro* that HuCNS-SC cells produce the enzyme that is deficient in late infantile NCL.

Alzheimer's Disease.

Alzheimer's disease is a progressive, fatal neurodegenerative disorder that results in loss of memory and cognitive function. Today, there is no cure or effective treatment option. According to the Alzheimer's Association, approximately 5.4 million Americans have Alzheimer's disease, including nearly half of people aged 85 and older. The prevalence of Alzheimer's disease is expected to increase rapidly as a result of our aging population.

In April 2011, we entered into a collaboration with a world renowned leader in Alzheimer's disease research at the University of California, Irvine (UCI) to study the therapeutic potential of our HuCNS-SC cells in Alzheimer's disease. Our collaborator's published research has shown that mouse neural stem cells enhance memory in a mouse model of Alzheimer's disease, and the goal of the collaboration is to replicate these results

using our human neural stem cells. Previously, we conducted studies of our HuCNS-SC cells in another model of Alzheimer's disease as part of a collaboration with researchers at the McLaughlin Research Institute. This research, which was funded by a National Institutes of Health (NIH) grant, demonstrated that our HuCNS-SC cells are capable of engrafting and surviving in the hostile environment reflective of an Alzheimer's brain, which characteristically features abnormal accumulations of brain lesions called plaques and tangles.

In September 2011, the California Institute of Regenerative Medicine (CIRM) awarded us and our collaborators a Disease Team Therapy Development Planning Award which totaled approximately $100,000. We were one of only four companies awarded a disease team planning grant. These funds helped us prepare and submit an application for a Disease Team Therapy Development Research Award in January 2012 for the study of HuCNS-SC cells as a potential treatment for Alzheimer's disease. The CIRM has indicated that each Research Award will be up to $20 million, payable over four years, to fund preclinical and IND-enabling activities with the aim of starting human clinical trials within the four-year window. The CIRM has indicated it plans to approve and fund Research Awards in the Summer of 2012.

Diseases and Disorders of the Spinal Cord

Spinal Cord Injury.

According to a recent study initiated by the Christopher and Dana Reeve Foundation, nearly 1.3 million people in the United States are estimated to be living with chronic spinal cord injury. There are no therapies today that can address the paralysis or loss of function caused by a spinal cord injury, but neural stem cells may have the potential to provide a novel therapeutic approach.

We are conducting a Phase I/II clinical trial in Switzerland to evaluate our HuCNS-SC cells as a treatment for chronic spinal cord injury. A total of twelve patients are expected to enroll in the study, all of whom will be three to twelve months post-injury. The study will follow a progressive study design, beginning with patients with complete injuries and then enrolling patients with incomplete injuries, all as classified by the American Spinal Injury Association Impairment Scale (AIS). We completed the enrollment and dosing of the first patient cohort, all of whom had complete injuries classified as AIS A, in December 2011. In addition to assessing safety, the trial will evaluate preliminary efficacy using defined clinical endpoints, such as changes in sensation, motor function, and bowel/bladder function. The trial is being conducted at University Hospital Balgrist in Zurich and was authorized by Swissmedic, the regulatory agency for therapeutic products in Switzerland.

The results of numerous preclinical studies demonstrate the therapeutic potential of our human neural stem cells for the treatment of spinal cord injury. Using a mouse model of spinal cord injury, our collaborators at the Reeve-Irvine Research Center at the University of California, Irvine have shown that our HuCNS-SC cells have the potential to protect and regenerate damaged nerves and nerve fibers, and that injured mice transplanted with our HuCNS-SC cells showed improved motor function compared to control animals. Inspection of the spinal cords from the treated mice showed significant levels of human neural cells derived from the transplanted stem cells. Some of these cells were oligodendrocytes, the specialized neural cell that forms the myelin sheath around axons, while others had become neurons and showed evidence of synapse formation, a requirement for proper neuronal function. The researchers then selectively ablated the human cells, and found that the functional improvement was lost, thus demonstrating that the human cells had played a direct role in the functional recovery of the transplanted mice. Moreover, our preclinical studies show that our human neural stem cells enable a significant and persistent recovery of motor function when transplanted in spinal cord-injured mice at both sub-acute and chronic injury time points.

In January 2012, we submitted an application to the CIRM for a disease team research award for cervical spinal cord injury. The Research Award may be up to $20 million, payable over four years, to fund preclinical and IND-enabling activities with the aim of starting human clinical trials within a four-year window. The CIRM has indicated it plans to approve and fund Research Awards in the summer of 2012.

Diseases and Disorders of the Eye

Retinal Disorders.

The retina is a thin layer of neural cells that lines the back of the eye and is responsible for converting external light into neural signals. A loss of function in retinal cells leads to impairment or loss of vision. The most common forms of retinal degeneration are age-related macular degeneration (AMD) and retinitis pigmentosa. AMD is the leading cause of vision loss and blindness in people over the age of 55 and afflicts some 30 million people worldwide.

In January 2012, we were authorized by the FDA to conduct a Phase I/II clinical trial in dry age-related macular degeneration, the more common form of AMD. The trial is expected to enroll a total of 16 patients and will evaluate the safety and preliminary efficacy of our HuCNS-SC cells as a treatment for dry AMD. Patients' vision will be evaluated using conventional methods of ophthalmological assessment at predetermined intervals over a one-year period.

Our preclinical data have shown that our HuCNS-SC cells, when transplanted in a well-established animal model of retinal degeneration, engraft long-term, can protect photoreceptors (the key cells involved in vision) from progressive degeneration, and can slow or prevent loss of visual function. In this model, called the Royal College of Surgeons (RCS) rat, a genetic mutation causes dysfunction of the retinal pigmented cells, which leads to progressive loss of the photoreceptors and ultimately, loss of visual function in the rat. Our preclinical data shows that our human neural stem cells protect both rod and cone photoreceptors in the eye from progressive degeneration and preserve visual function long term. The cone photoreceptors are light sensing cells that are highly concentrated within the macula of the human eye, and the ability to protect these cells suggests a promising approach to treating AMD. A summary of our preclinical data was featured as the cover article in February 2012 edition of the international peer-reviewed *European Journal of Neuroscience*.

Other CNS Collaborations.

We have established a number of research collaborations to assess both the *in vitro* potential of the HuCNS-SC cells and the effects of transplanting HuCNS-SC cells into preclinical animal models, including a collaboration with researchers at the Stanford University School of Medicine to evaluate our human neural stem cells in animal models of stroke. The results of these studies demonstrate the targeted migration of the cells toward the stroke lesion and differentiation toward the neuronal lineage. Another study with researchers at Stanford's School of Medicine demonstrated that HuCNS-SC cells labeled with magnetic nanoparticles could non-invasively track the survival and migration of human cells within the brain.

Liver Program

According to the American Association for the Study of Liver Diseases, approximately 25 million Americans are afflicted with liver-related disease each year. In many of these diseases, such as hepatitis, liver failure, blood-clotting disorder, cirrhosis, and liver cancer, the liver slowly loses function as liver cells are damaged or destroyed by the disease process. Eventually, an organ transplant is required in order to restore liver function to the patient. Organ transplants, however, are limited by the supply of suitable organs, and the transplant is generally done at the very late stages of the disease, in part because there are many more patients who need a transplant than there are suitable organs available. Moreover, the transplant procedure itself is very invasive.

Liver stem or progenitor cells have the potential to offer an alternative treatment for some of these liver diseases. A liver cellular therapy or cell-based therapeutic could provide or support liver function in patients with liver disease and would have a number of advantages over whole organ transplants. Such a product could potentially (i) expand the range of patients who would be treatable, (ii) allow for treatment in earlier stages of disease, and (iii) be less invasive and better tolerated.

We have identified a subset of our proprietary human liver engrafting cells (hLEC) which we believe may be a candidate for product development. Numerous preclinical studies show that the hLEC demonstrate essential liver enzymatic functions *in vitro* and that hLEC engraft and show basic function of hepatocytes when transplanted into immunodeficient mice with a metabolic defect.

We hold a portfolio of issued and allowed patents in the liver field which cover the isolation and use of both hLEC cells and the isolated subset, as well as the composition of the cells themselves. See "Patents, Proprietary Rights and Licenses," below.

In October 2011, we formed a wholly-owned subsidiary to focus on both the therapeutic and research tool applications of our hLEC technologies and to serve as an investment vehicle for those interested in a "pure play" liver cell company.

Tools and Technologies Programs

Overview

Cells, and stem cells in particular, are an important resource for researchers seeking to understand human diseases, advance medical research and develop more effective therapies. Stem cells provide potentially unlimited sources of different cell types owing to their ability to be expanded and subsequently differentiated into particular cell types. Embryonic stem cells, for example, have the ability to become any one of the more than 200 specialized cell types found in the human body (they are said to be *pluripotent*); induced pluripotent stem (iPS) cells also possess this ability. Because of this versatility, these cells are valuable tools for examining and researching the fundamental biology of cells and the pathways involved in early development and tissue formation. In recent years, the pharmaceutical industry has become increasingly interested in using stem cell-based assays in its drug discovery and development efforts.

Specialty Cell Culture Products and Antibody Reagents

Stem cell research is a growing and highly specialized field. Because of their nature, stem and progenitor cells are rare and they require specific conditions to survive and thrive. For this reason, researchers require specialized cell culture products that enable the derivation, growth, maintenance, and manipulation of such cells. One of the greatest challenges facing researchers is the limited quality and quantity of stem and progenitor cells available. The challenge is in maintaining the pluripotency or multipotency of stem or progenitor cells in culture, i.e., keeping these cells from differentiating into other cell types, which is their natural tendency. Our cell biology expertise has enabled us to develop and commercialize proprietary cell culture products to optimize the derivation, growth, maintenance, and differentiation of stem cells. In contrast to common industry practice, we have developed media formulations that are free of animal serum and feeder cells (helper cells added to promote cell growth), which are known sources of undesirable agents affecting stem cell performance and safety.

Our current range of cell culture products, which are sold under the SC Proven brand, includes iSTEM, GS1-R, GS2-M, RHB-A, RHB-Basal, NDiff N2, and NDiff N2B27. The following table describes each of these in more detail:

iSTEM	A serum-free, feeder-free medium that maintains mouse embryonic stem cells in their pluripotent "ground state" by using selective small molecule inhibitors to block the pathways which induce differentiation.
RHB-A	A defined, serum-free culture medium for the selective culture of human and mouse neural stem cells and their maintenance and expansion as adherent cell populations.
RHB-Basal	A defined, serum-free basal medium. When supplemented with specific growth factors, this media is specifically formulated for the propagation and differentiation of adherent neural stem cells. RHB-Basal can also be tailored to specific-cell type requirements by the addition of customer preferred supplements.
NDiff N2	A defined serum-free scell culture supplement for the derivation, maintenance, expansion and/or differentiation of human and mouse embryonic stem (ES) cells and tissue-derived neural stem cells supplement.
NDiff N2-AF	A serum-free and animal component-free version of NDiff N2.
NDiff N2B27	A defined, serum-free medium for the differentiation of mouse embryonic stem cells to neural cell types.
NDiff N27-AF	A serum-free and animal component-free version of NDiff N27.
GS1-R	The first defined, serum-free media formulation shown to enable the derivation and long-term maintenance of true, germline competent rat embryonic stem cells without the addition of cytokines or growth factors.
GS2-M	A defined, serum- and feeder-free medium for the derivation and long-term maintenance of true, germline competent mouse iPS cells.

We also currently market a number of antibody reagents for use in cell detection, isolation and characterization. These reagents are also under the SC Proven brand. The following table describes each of these in more detail:

STEM24	A human antibody that recognizes human CD24, also known as Heat Stable Antigen (HSA), a glycoprotein expressed on the surface of many human cell types, including immature human hematopoietic cells, peripheral blood lymphocytes, erythrocytes, and many human carcinomas. CD24 is also a marker of human neural differentiation.
STEM101	A human-specific mouse antibody that recognizes the Ku80 protein found in human nuclei.
STEM121	A human-specific mouse antibody that recognizes a cytoplasmic protein of human cells.
STEM123	A human-specific mouse antibody that recognizes human glial fibrillary acidic protein (GFAP).

Other products marketed under SC Proven include total cell genomic DNA (gDNA), RNA and protein lysate reagents purified from homogenous stem cell populations for intra-comparative studies, such as Epigenetic fingerprinting, Southern, Western and Northern blots, PCR, RT-PCR, and microarrays. This range of purified stem cell line lysates includes:

- Mouse embryonic stem (ES) cells propagated in proprietary SC Proven '2i' inhibitor-based GS2-M™ media; and
- Mouse ES cell-derived and fetal tissue-derived neural stem (NS) cells propagated in proprietary SC Proven RHB-A ® media.

Other Technologies

In addition to our cell therapeutics and research reagent programs, we hold a number of "non-core" technologies which we feel present important licensing opportunities. The most significant of these are likely to be certain proprietary technology within the Company for the generation of transgenic rats and for drug screening using stem and progenitor cells.

Transgenic Rat Program.

As part of our acquisition of assets from SCS in April 2009, we acquired exclusive rights to an intellectual property portfolio that broadly covers rat pluripotent stem cells, methods for using these cells to generate transgenic rats, and media for the culturing of these cells. This intellectual property was based upon research done at the University of Edinburgh, which showed for the first time the successful derivation and culture of true germline competent rat ES cells required for precise genetic engineering.

In August 2010, researchers demonstrated for the first time the creation of genetically modified rats using rat pluripotent cells that have been gene targeted via homologous recombination, a method which involves adding DNA sequences to the cells to delete ('knock-out'), add ('knock-in') or otherwise modify genes of interest. This work resulted in the successful generation of knock-out rats missing the tumor suppressor gene p53 and served as a proof-of-principle for creating genetically engineered rats using rat ES cells. Prior to this breakthrough, these types of genetic manipulations were only possible in mice, and genetically engineered mice are widely used as disease models. While both mice and rats are used as animal models of human disease, aspects of the rat's physiology, behavior, and metabolism are closer to the human, making rats the preferred species for drug development and studying human disease. Moreover, the rat cells used to generate these genetically engineered rats were cultured using a proprietary '2i' inhibitor-based media formulation marketed as part of our SC Proven line of specialty cell culture products under the product name "GS1-R." GS1-R is the first and only commercially available medium shown to enable the derivation and long-term maintenance of the true rat pluripotent cells required for precise genetic manipulation.

We believe that over the past few years a number of researchers have used our rat pluripotent cell technology to derive different knock-out and knock-in rat models. And, over this time, the first of the patents in this portfolio issued (GB Patent No. 2451523), and the proprietary media patent application was allowed in Europe (EPO Patent No. 1999249). We are therefore exploring our rat pluripotent cell technology and our inhibitor-based media as important licensing and commercial opportunities.

Cell-based Assays for Drug Discovery and Development.

The pharmaceutical industry has recognized that cell-based assays could reduce the time and cost associated with drug discovery and development by providing a more predictive and physiologically relevant platform earlier in the development process. Today, pharmaceutical companies and other research institutions actively use human and animal cells in their drug discovery and development efforts, and they are increasingly interested in using stem cells for those efforts.

Because of our leading position in the neural stem cell field, our expertise and technologies may have utility in cell-based assay development efforts in the CNS field. For example, we have tested thousands of compounds on human neural stem cells and have identified a number of compounds that cause proliferation of these cells. We also believe that our hLEC cells may be useful in cell-based assays to test for liver toxicity. Liver toxicity is the most often cited cause of clinical trial failures and drug product withdrawals.

While we recently suspended our internal efforts in the drug assay field due to limited resources and our desire to focus on our therapeutic product development efforts, we nevertheless own or have exclusively licensed a number of patents related to technologies relevant to cell-based research, especially using either neural or liver

cells. These include patents related to certain mammalian pluripotent and multipotent stem cells, cellular reprogramming, genetic manipulation of stem cells, the creation of genetically engineered animals used for research, technologies that facilitate the identification and isolation of specific stem cell types, and media formulations for the culture of stem cells. See "Patents, Proprietary Rights and Licenses," below. We continue to explore ways of monetizing these assets for use in drug screening.

Contract Services and Supply Agreements

Our team members have been at the forefront of the research, development, manufacture and clinical translation of various different stem cells and cell-based therapies for over 20 years. We have demonstrated expertise in the development and implementation of state-of-the-art cell separation devices, bioreactors, closed systems and robotic platforms for manufacture of cells at the required scales. Leveraging this expertise, we now offer contract services for process development, process scale-up/scale-out and production, including use of our automated TAP Biosystems CompacT ® SelecT Robotic platform.

In an extension of the process development and production services we have been contracted to scale-up and supply quantities of cell lines, reagents, cell line derivatives and assay protocols for use in client's drug development and other programs.

Our clients include the service division of a global biotechnology company developing new medicines, and a world-renowned scientific research institute.

Operations

Manufacturing

We have made considerable investments in our manufacturing operations. Our team includes world-recognized experts with proven track records in the development, manufacture and delivery of a range of different cell-based products. For clinical trials, our highly-qualified personnel manufacture cell products in clean room environments in compliance with current Good Manufacturing Practice (cGMP) and to quality standards that meet US as well as international regulatory requirements. By combining expertise and experience, we believe our expandable and bankable cell products can ultimately be manufactured and distributed at commercial-scale as "stem cells in a bottle," much like an off-the-shelf pharmaceutical product. We believe we also have sufficient ability to manufacture the cell culture media and reagent products that we are currently selling commercially, and that we have sufficient resources to add additional media and reagent manufacturing capacity should the business need arise.

Marketing

Because of the early stage of our stem and progenitor cell-based therapeutic product development programs, we have not yet addressed questions of channels of distribution or marketing of potential future products. We sell and ship our proprietary cell culture products directly from our facility in Cambridge, U.K. Customers can order these products through our dedicated website (www.scproven.com). In addition, we have a number of co-exclusive distribution agreements with Millipore Corporation for the marketing and sale of certain of our cell culture products, including HEScGRO and ESGRO Complete.

Employees

As of December 31, 2011, we had 50 full-time employees, 12 of whom have Ph.D., M.D. or D.V.M. degrees. 40 full-time employees work in research and development and laboratory support services. No employees are covered by collective bargaining agreements. We consider our employee relations in general to be good.

Patents, Proprietary Rights and Licenses

We believe that proprietary protection of our inventions will be critical to our future business. We vigorously seek out intellectual property that we believe might be useful in connection with our products, and have an active program of protecting our intellectual property. We may also from time to time seek to acquire licenses to important externally developed technologies.

We have exclusive or non-exclusive rights to a portfolio of patents and patent applications related to various stem and progenitor cells and methods of deriving and using them. These patents and patent applications relate to compositions of matter, methods of obtaining such cells, and methods for preparing, transplanting and utilizing these cells. We also own or have exclusive rights to exploit a number of patents that claim tools and techniques important to cell-based research. A number of these patents were acquired from SCS in April 2009.

Among our significant U.S. patents covering stem and progenitor cells are:

- U.S. Patent No. 5,968,829, entitled "Human CNS Neural Stem Cells," which covers our composition of matter for human CNS stem cells;
- U.S. Patent No. 7,361,505, entitled "Multipotent neural stem cell compositions," which covers mammalian neural stem cells derived from any tissue source, including embryonic, fetal, juvenile, or adult tissue;
- U.S. Patent No. 7,153,686, entitled "Enriched Central Nervous System Stem Cell and Progenitor Cell Populations, and Methods for Identifying, Isolating and Enriching such Populations," which claims the composition of matter of various antibody-selected neural stem cell populations;
- U.S. Patent No. 6,777,233, entitled "Cultures of Human CNS Neural Stem Cells," which discloses a neural stem cell culture with a doubling rate faster than days;
- U.S. Patent No. 6,497,872, entitled "Neural transplantation using proliferated multipotent neural stem cells and their progeny," which covers transplanting any neural stem cells or their differentiated progeny, whether the cells have been cultured in suspension or as adherent cells, for the treatment of any disease;
- U.S. Patent No. 6,468,794, entitled "Enriched central nervous system stem cell and progenitor cell populations, and methods for identifying, isolating and enriching for such populations," which covers the identification and purification of the human CNS stem cell;
- U.S. Patent No. 5,851,832, entitled *"In Vitro* growth and proliferation of multipotent neural stem cells and their progeny," which covers methods and compositions of proliferating and expanding human CNS cell cultures;
- U.S. Patent No. 6,294,346, entitled "Use of multipotent neural stem cells and their progeny for the screening of drugs and other biological agents," which describes the use of human neural stem cells as a tool for screening the effects of drugs and other biological agents on such cells, such as small molecule toxicology studies;
- U.S. Patent No. 7,211,404, entitled "Liver engrafting cells, assays, and uses thereof," which covers the isolation and use of an enriched population of hepatic liver engrafting cells; and

Among our significant U.S. patents covering cell-based research tools and technologies are:

- U.S. Patent Nos. 7,005,299 and 6,150,169, both entitled "Expression of heterologous genes according to a targeted expression profile," which cover the use of a gene sequence called IRES (internal ribosome entry site), a pivotal technology to target exogeneous gene expression in stem cells, thereby facilitating their identification and use; and
- U.S. Patent No. 6,878,542 and 7,256,041, both entitled "Isolation, selection and propagation of animal transgenic stem cells," and U.S. Patent No. 6,146,888, entitled "Method of enriching for mammalian stem cells," which cover the isolation of stem cells using a nucleic acid construct including a selectable marker.

Of the fourteen patents identified above as being amongst "significant" patents, five are owned by us and nine are exclusively licensed to us. The table below sets out the anticipated expiration dates of these patents absent the grant of any patent term extension, whether under the Hatch Waxman Act (Pub. L. 98-417) or otherwise, which information will be included in our future 10-K filings:

Patents Owned	5,968,829 (2017); 7,153,686 (2019); 6,777,233 (2017); 6,468,794 (2019); 7,211,404 (2022)
Patents Exclusively Licensed (licensor included):	7,361,505 (NeuroSpheres, 2015); 6,497,872 (NeuroSpheres, 2019); 5,851,832 (NeuroSpheres, 2015); 6,294,346 (NeuroSpheres, 2018); 7,005,299 (University of Edinburgh 2014); 6,150,169 (University of Edinburgh 2014); 6,878,542 (University of Edinburgh 2014); 7,256,041 (University of Edinburgh 2014); 6,146,888 (University of Edinburgh 2014)

We also rely upon trade-secret protection for our proprietary information and know-how, and we take active measures to control access to this information. We believe that our know-how will also provide a significant competitive advantage.

Our policy is to require our employees, consultants and significant scientific collaborators and sponsored researchers to execute confidentiality agreements upon the commencement of any employment or consulting relationship with us. These agreements generally provide that all confidential information disclosed by us or developed during the course of the individual's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of employees and consultants, the agreements generally provide that all inventions conceived by the individual in the course of rendering services to us will be our exclusive property.

Licenses Agreements

Since inception, we have entered into a number of license agreements with academic organizations and commercial entities, including NeuroSpheres, Ltd. (Neurospheres), ReNeuron Ltd. (ReNeuron), Stem Cell Therapeutics Corp. (SCT), genOway SA (genOway), the University of Edinburgh, the California Institute of Technology (Cal Tech), Cambridge University, RIKEN Institute, and Oregon Health & Science University (OHSU), to either acquire or license out intellectual property rights. Under these license agreements, there are typically obligations of due diligence and the requirement to pay royalties on products that use patented technology licensed under these agreements. The license agreements with some of these institutions relate largely to stem or progenitor cells or to processes and methods for the isolation, identification, expansion, or culturing of stem or progenitor cells. Generally speaking, these license agreements will terminate upon expiration, revocation or invalidation of the licensed patents, unless governmental regulations require a shorter term. Typically, the licensee under each of these license agreements can terminate the agreement at any time upon notice. At this time, we do not believe the future success of our research and development efforts depend significantly on any particular license agreement or research collaboration. Nevertheless, we describe the more important license agreements below.

NeuroSpheres

In March 1994, we entered into a contract research and license agreement with NeuroSpheres, which was clarified in a license agreement dated as of April 1, 1997. Under the agreement as clarified, we obtained an exclusive patent license from NeuroSpheres in the field of transplantation, subject to a limited right of NeuroSpheres to purchase a nonexclusive license from us, which right was not exercised and has expired. We have developed additional intellectual property relating to the subject matter of the license. We entered into an additional license agreement with NeuroSpheres as of October 30, 2000, under which we obtained an exclusive license in the field of non-transplant uses, such as drug discovery and drug testing and clarified our rights under NeuroSpheres patents for generating cells of the blood and immune system from neural stem cells. Together, our

rights under the licenses are exclusive for all uses of the technology. All of the product-based royalty rates in the license agreement between the Company and NeuroSpheres are in the single digits. We made up-front payments to NeuroSpheres of 6,500 shares of our common stock in October 2000 and $50,000 in January 2001, and we will make additional cash payments when milestones are achieved under the terms of the October 2000 agreement. In addition, in October 2000 we reimbursed NeuroSpheres for patent costs amounting to $341,000. Milestone payments, payable at various stages in the development of potential products, would total $500,000 for each product that is approved for market. In addition, beginning in 2004, annual payments of $50,000 became due, payable by the last day of the year and fully creditable against royalties due to NeuroSpheres under the October 2000 Agreement. Our agreements with NeuroSpheres will terminate at the expiration of all patents licensed to us, but can terminate earlier if we breach our obligations under the agreement and do not cure the breach, or if we declare bankruptcy.

In July 2008, we amended our 1997 and 2000 license agreements with NeuroSpheres. Six of the patents covered by the license agreements are the basis of our patent infringement suits against Neuralstem. Under the terms of the amendment, we agreed to pay all reasonable litigation costs, expenses and attorney's fees incurred by NeuroSpheres in the declaratory judgment suit between us and Neuralstem. In return, we are entitled to off-set all litigation costs incurred in that suit against amounts that would otherwise be owed under the license agreements, such as annual maintenance fees, milestones and royalty payments.

University of Edinburgh

In January 2006, we entered into an exclusive, world-wide license agreement with the University of Edinburgh covering approximately twelve separate patent families in the stem cell field. Since then, the parties added some additional patent families and dropped some patent families which were not considered core to our business activities. Today, the license agreement patent families, including several that cover culture media and research technologies, one that covers purified populations of neural stem cells, some that cover cell reprogramming technologies, and one that covers the manipulation and use of embryonic stem cells for the derivation of research animal models, such as knock-out rats, with one or more missing genes. Under the license agreement, we have the exclusive right to commercialize the technologies in all fields. We have been paying royalties to the University of Edinburgh on the commercial sale of certain SC Proven products, and will pay royalties on all net sales of products covered by any of the intellectual property licensed under this agreement. All of the product-based royalty rates in the license agreement between the Company and the University of Edinburgh are in the single digits and there are no provisions under the University of Edinburgh license agreement for the payment of potential milestones by the Company.

ReNeuron

In July 2005, we entered into an agreement with ReNeuron under which we granted ReNeuron a license that allows ReNeuron to exploit its "c-mycER" conditionally immortalized adult human neural stem cell technology for therapy and other purposes. We received shares of ReNeuron common stock, as well as a cross-license to the exclusive use of ReNeuron's technology for certain diseases and conditions, including lysosomal storage diseases, spinal cord injury, cerebral palsy, and multiple sclerosis. The agreement also provides for full settlement of any potential claims that either we or ReNeuron might have had against the other in connection with any putative infringement of certain of each party's patent rights prior to the effective date of the agreement. As part of the agreement, we received in aggregate, approximately 10,097,000 ordinary shares of ReNeuron common stock, net of approximately 122,000 shares that were transferred to NeuroSpheres. Between 2007 and 2011, we sold our entire holdings of shares of ReNeuron common stock for aggregate net proceeds of approximately $3,743,000. As of June 30, 2011, we no longer hold any shares of ReNeuron.

Stem Cell Therapeutics

In August 2006, we entered into an agreement with Stem Cell Therapeutics, a Canadian corporation listed on the Toronto Stock Exchange, granting it a non-exclusive, royalty-bearing license to use several of our patents for treating specified diseases of the central nervous system; the grant does not include any rights to cell

transplantation. SCT granted us a royalty-free non-exclusive license to certain of its patents for research and development and a royalty-bearing non-exclusive license for certain commercial purposes. SCT paid an up-front license fee; the license also provides for other payments including annual maintenance, milestones and royalties.

genOway

In October 2008, we entered into a license agreement with genOway, a leading transgenics company located in France, in which we granted a non-exclusive sublicense to genOway for the use of Internal Ribosome Entry Site (IRES) technology. The IRES technology enables the dual expression of a protein of interest and a selectable marker, thereby enabling researchers to genetically modify any mammalian cell and monitor the activity of a particular gene of interest in living cells or tissues without blocking the normal function of the gene. The IRES technology is particularly important for evaluating the success of gene knock-outs or knock-ins in stem cells and for the successful creation of transgenic rodent disease models. The IRES technology has been used to develop hundreds of genetically modified models in the past decade, and the technology is now considered to be the reference technology for transgene expression in some key rodent animal models, such as humanized models, reporter model, and cell trafficking models. The IRES technology is covered by one of the patent families exclusively licensed to us by the University of Edinburgh, specifically U.S. Patents No. 7,005,299 and 6,150,169 and their foreign counterparts.

In March 2012, we agreed to amend the genOway license agreement to give genOway exclusive worldwide rights, including a right to grant sublicenses, under the IRES patent family in order to commercialize transgenic mice, and provide related services such as the genetic engineering of such mice. Under this exclusive license agreement, as amended, we are to receive a six figure lump sum payment in lieu of annual maintenance fees, as well as single digit royalties on licensed products and services.

Other Commercial Licenses

We have approximately fifteen other license agreements with commercial entities, which we entered into in the ordinary course of business to monetize certain of our patents. A number of these include sublicenses to certain patents exclusively licensed to us from either NeuroSpheres or the University of Edinburgh. Some of these are license agreements to commercialize cells. A number of these are license agreements to our research tools patents, such as the IRES and selectable marker technologies described above. We have an on-going licensing program at the Company with the goal of identifying likely infringers of our intellectual property rights in order to generate license revenues.

Scientific Advisory Board

Members of our Scientific Advisory Board provide us with strategic guidance primarily in regard to our therapeutic products research and development programs, as well as assistance in recruiting employees and collaborators. Each Scientific Advisory Board member has entered into a consulting agreement with us. These consulting agreements specify the compensation to be paid and require that all information about our products and technology be kept confidential. All of the Scientific Advisory Board members are employed by employers other than us and may have commitments to, or consulting or advising agreements with, other entities that limit their availability to us. The Scientific Advisory Board members have generally agreed, however, for so long as they serve as consultants to us, not to provide any services to any other entities that would conflict with the services the member provides to us. We are entitled to terminate the arrangements if we determine that there is such a conflict.

The following persons are members of our Scientific Advisory Board:

- Irving L. Weissman, M.D., Chairman of our Scientific Advisory Board, is the Virginia and Daniel K. Ludwig Professor of Cancer Research, Professor of Pathology and Professor of Developmental Biology at Stanford University, Director of the Stanford University Institute for Stem Cell Biology and Regenerative Medicine, and Director of the Stanford Ludwig Center for Cancer Stem Cell Research and Medicine, all

in Stanford, California. Dr. Weissman's lab was responsible for the discovery and isolation of the first ever mammalian tissue stem cell, the hematopoietic (blood-forming) stem cell. Dr. Weissman was responsible for the formation of three stem cell companies, SyStemix, Inc., StemCells, Inc. and Cellerant, Inc. Dr. Weissman co-discovered the mammalian and human hematopoietic stem cells and the human neural stem cell. He has extended these stem cell discoveries to cancer and leukemia, discovering the leukemic stem cells in human and mouse acute or blast crisis myeloid leukemias, and has enriched the cancer stem cells in several human brain cancers as well as human head and neck squamous cell carcinoma. Past achievements of Dr. Weissman's laboratory include identification of the states of development between stem cells and mature blood cells, the discovery and molecular isolation and characterization of lymphocyte and stem cell homing receptors, and identification of the states of thymic lymphocyte development. His laboratory at Stanford has developed accurate mouse models of human leukemias, and has shown the central role of inhibition of programmed cell death in that process. He has also established the evolutionary origins of pre-vertebrate stem cells, and identified and cloned the transplantation genes that prevent their passage from one organism to another. Dr. Weissman has been elected to the National Academy of Science, the Institute of Medicine of the National Academies, the American Academy of Arts and Sciences, the American Society of Microbiology, and several other societies. He has received the Kaiser Award for Excellence in Preclinical Teaching, the Pasarow Foundation Award for Cancer Research, the California Scientist of the Year (2002), the Kovalenko Medal of the National Academy of Sciences, the Elliott Joslin Medal for Diabetes Research, the de Villiers Award for Leukemia Research, the Irvington Award for Immunologist of the Year, the Bass Award of the Society of Neurosurgeons, the New York Academy of Medicine Award for Medical Research, the Alan Cranston Award for Aging Research, the Linus Pauling Award for Biomedical Research, the E. Donnall Thomas Award for Hematology Research, the van Bekkum Award for Stem Cell Research, the Outstanding Investigator Award from the National Institutes of Health, Robert Koch Award for research in the hemopoieteic system, and many other awards. In 2010, Dr. Weissman was appointed as an Honorary Director of the Center for Biotech and BioMedicine and the Shenzhen Key Lab of Gene and Antibody Therapy at the Graduate School of Shenzhen at Tsinghua University. He was also appointed as an Honorary Professor at Peking Union Medical College and an Honorary Investigator at the State Key Laboratory of Experimental Hematology, Institute of Hematology and Blood Disease Hospital at the Chinese Academy of Medical Sciences and Peking Union Medical College. In 2011, Dr. Weissman was elected to the National Academy of Sciences Council.

- David J. Anderson, Ph.D., is Seymour Benzer Professor of Biology, California Institute of Technology, Pasadena, California and Investigator, Howard Hughes Medical Institute. His laboratory was the first to isolate a multipotent, self-renewing, stem cell for the peripheral nervous system, the first to identify instructive signals that promote the differentiation of these stem cells along various lineages, and the first to accomplish a direct purification of peripheral neural stem cells from uncultured tissue. Dr. Anderson's laboratory also was the first to isolate transcription factors that act as master regulators of neuronal fate. More recently, he has identified signals that tell a neural stem cell to differentiate to oligodendrocytes, the myelinating glia of the central nervous system, as well as factors for astrocyte differentiation. Dr. Anderson is a co-founder of the Company and was a founding member of the scientific advisory board of the International Society for Stem Cell Research. Dr. Anderson also serves on the scientific advisory board of Allen Institute for Brain Science. He has held a presidential Young Investigator Award from the National Science Foundation, a Sloan foundation Fellowship in Neuroscience, and has been Donald D. Matson lecturer at Harvard Medical School. He has received the Charles Judson Herrick Award from the American Association of Anatomy, the 1999 W. Alden Spencer Award in Neurobiology from Columbia University, and the Alexander von Humboldt Foundation Award. Dr. Anderson has been elected to the National Academy of Science and is a member of the American Academy of Arts and Sciences.
- Fred H. Gage, Ph.D., is Professor, Laboratory of Genetics, The Salk Institute for Biological Studies, La Jolla, California and Adjunct Professor, Department of Neurosciences, University of California, San Diego, California. Dr. Gage's lab was the first to discover Neurogenesis in the adult human brain.

His research focus is on the development of strategies to induce recovery of function following central nervous system damage. Dr. Gage is a co-founder of StemCells and of BrainCells, Inc., and a member of the scientific advisory board of each. Dr. Gage also serves on the Scientific Advisory Board of Ceregene, Inc, and he is a founding member of the scientific advisory board of the International Society for Stem Cell Research. Dr. Gage has been the recipient of numerous awards, including the 1993 Charles A. Dana Award for Pioneering Achievements in Health and Education, the Christopher Reeves Medal, the Decade of the Brain Medal, the Max-Planck research Prize, and the Pasarow Foundation Award. Professor Gage is a member of the Institute of Medicine, a member of the National Academy of Science, and a Fellow of the American Academy of Arts and Science.

Government Regulation

Our research and development activities and the future manufacturing and marketing of our potential therapeutic products are, and will continue to be, subject to regulation for safety and efficacy by numerous governmental authorities in the United States and other countries.

U.S. Regulations

In the United States, pharmaceuticals, biologicals and medical devices are subject to rigorous regulation by the U.S. Food and Drug Administration (FDA). The Federal Food, Drug and Cosmetic Act, the Public Health Service Act, applicable FDA regulations, and other federal and state statutes and regulations govern, among other things, the testing, manufacture, labeling, storage, export, record keeping, approval, marketing, advertising, and promotion of our potential products. Product development and approval within this regulatory framework takes a number of years and involves significant uncertainty combined with the expenditure of substantial resources. In addition, many jurisdictions, both federal and state, have restrictions on the use of fetal tissue.

FDA Marketing Approval

The steps required before our potential therapeutic products may be marketed in the United States include:

Steps	Considerations
1. Preclinical laboratory and animal tests	Preclinical tests include laboratory evaluation of the cells and the formulation intended for use in humans for quality and consistency. *In vivo* studies are performed in normal animals and specific disease models to assess the potential safety and efficacy of the cell therapy product.
2. Submission of an Investigational New Drug (IND) application	The IND is a regulatory document submitted to the FDA with preclinical and manufacturing data, a proposed development plan and a proposed protocol for a study in humans. The IND becomes effective 30 days following receipt by the FDA, provided there are no questions, requests for delay or objections from the FDA. If the FDA has questions or concerns, it notifies the sponsor, and the IND will then be on clinical hold until the sponsor responds satisfactorily. In general an IND must become effective before U.S. human clinical trials may commence.

3. Human clinical trials	Clinical trials involve the evaluation of a potential product under the supervision of a qualified physician, in accordance with a protocol that details the objectives of the study, the parameters to be used to monitor safety and the efficacy criteria to be evaluated. Each protocol is submitted to the FDA as part of the IND. The protocol for each clinical study must be approved by an independent Institutional Review Board (IRB) of the institution at which the study is conducted and the informed consent of all participants must be obtained. The IRB reviews the existing information on the product, considers ethical factors, the safety of human subjects, the potential benefits of the therapy, and the possible liability of the institution. The IRB is responsible for ongoing safety assessment of the subjects during the clinical investigation. Clinical development is traditionally conducted in three sequential phases, Phase I, II and III. Phase I studies for a product are designed to evaluate safety in a small number of subjects in a selected patient population by assessing adverse effects, and may include multiple dose levels. This study may also gather preliminary evidence of a beneficial effect on the disease. Phase II studies typically involve a larger, but still limited, patient population to determine biological and clinical effects of the investigational product and to identify possible adverse effects and safety risks of the product in the selected patient population. Phase III studies are undertaken to demonstrate clinical benefit or effect in a statistically significant manner and to test further for safety within a broader patient population, generally at multiple study sites. The FDA continually reviews the clinical trial plans and results and may suggest changes or may require discontinuance of any trial at any time if significant safety issues arise.
4. Submission of a Biologics Licensing Application (BLA)	The results of the preclinical studies and clinical studies are submitted to the FDA in an application for marketing approval authorization.
5. Regulatory Approval	The testing and approval process will require substantial time, effort and expense. The time for approval is affected by a number of factors, including relative risks and benefits demonstrated in clinical trials, the availability of alternative treatments and the severity of the disease. Additional animal studies

	or clinical trials may be requested during the FDA review period, which might add to that time. FDA approval of the application(s) is required prior to any commercial sale or shipment of the therapeutic product. Biologic product manufacturing facilities located in certain states also may be subject to separate regulatory and licensing requirements.
6. Post-marketing studies	After receiving FDA marketing approval for a product for an initial indication, further clinical trials may be required to gain approval for the use of the product for additional indications. The FDA may also require post-marketing testing and surveillance to monitor for adverse effects, which could involve significant expense, or the FDA may elect to grant only conditional approvals subject to collection of post-marketing data.

FDA Manufacturing Requirements

Among the conditions for product licensure is the requirement that the prospective manufacturer's quality control and manufacturing procedures conform to the FDA's current good manufacturing practice (GMP) requirements. Even after a product's licensure approval, its manufacturer must comply with GMP on a continuing basis, and what constitutes GMP may change as the state of the art of manufacturing changes. Domestic manufacturing facilities are subject to regular FDA inspections for GMP compliance, which are normally held at least every two years. Foreign manufacturing facilities are subject to periodic FDA inspections or inspections by the foreign regulatory authorities. Domestic manufacturing facilities may also be subject to inspection by foreign authorities.

Orphan Drug Act

The Orphan Drug Act provides incentives to drug manufacturers to develop and manufacture drugs for the treatment of diseases or conditions that affect fewer than 200,000 individuals in the United States. Orphan drug status can also be sought for treatments for diseases or conditions that affect more than 200,000 individuals in the United States if the sponsor does not realistically anticipate its product becoming profitable from sales in the United States. We may apply for orphan drug status for certain of our therapies. Under the Orphan Drug Act, a manufacturer of a designated orphan product can seek tax benefits, and the holder of the first FDA approval of a designated orphan product will be granted a seven-year period of marketing exclusivity in the United States for that product for the orphan indication. While the marketing exclusivity of an orphan drug would prevent other sponsors from obtaining approval of the same compound for the same indication, it would not prevent other compounds or products from being approved for the same use including, in some cases, slight variations on the originally designated orphan product.

FDA Human Cell and Tissue Regulations

Our research and development is based on the use of human stem and progenitor cells. The FDA has initiated a risk-based approach to regulating Human Cell, Tissue and Cellular and Tissue-based (HCT/P) products and has published current Good Tissue Practice (GTP) regulations. As part of this approach, the FDA has published final rules for registration of establishments that recover, process, store, label, package, or distribute HCT/P products or that screen or test the donor of HCT/P products, and for the listing of such products. In addition, the FDA has published rules for determining the suitability of donors of cells and tissue, the eligibility of the cells and tissues for clinical use and for current good tissue practice for manufacturers using them. We have adopted policies and procedures to comply with these regulations.

Other Regulations

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

International Law

Outside the United States, we will be subject to regulations that govern the import of drug products from the United States or other manufacturing sites and foreign regulatory requirements governing human clinical trials and marketing approval for our products. The requirements governing the conduct of clinical trials, product licensing, pricing, and reimbursements vary widely from country to country. In particular, the European Union (EU) is revising its regulatory approach to biotechnology products, and representatives from the United States, Japan and the EU are in the process of harmonizing and making more uniform the regulations for the registration of pharmaceutical products in these three markets. This process increases uncertainty over regulatory requirements in our industry. Furthermore, human stem and progenitor cells may be regulated in the EU and other countries as transplant material or as a somatic cell therapy medicinal product, depending on the processing, indication and country.

Environment

We have made, and will continue to make, expenditures for environmental compliance and protection. Expenditures for compliance with environmental laws have not had, and are not expected to have, a material effect on our capital expenditures, results of operations or competitive position.

Reimbursement and Health Care Cost Control

Reimbursement for the costs of treatments and products such as ours from government health administration authorities, private health insurers and others, both in the United States and abroad, is a key element in the success of new health care products. Significant uncertainty often exists as to the reimbursement status of newly approved health care products.

The revenue and profitability of some health care-related companies have been affected by the continuing efforts of governmental and third party payors to contain or reduce the cost of health care through various means. Payors are increasingly attempting to limit both coverage and the levels of reimbursement for new therapeutic products approved for marketing by the FDA, and are refusing, in some cases, to provide any coverage for uses of approved products for disease indications for which the FDA has not granted marketing approval. In certain foreign markets, pricing or profitability of prescription pharmaceuticals is subject to government control. In the United States, there have been a number of federal and state proposals to implement government control over health care costs.

The U.S. Patient Protection and Affordance Care Act and the Health Care and Education Reconciliation Act were signed into law in March 2010. A number of provisions of those laws require further rulemaking action by governmental agencies to implement. The laws change access to health care products and services and create new fees for the pharmaceutical and medical device industries. Future rulemaking could increase rebates, reduce prices or the rate of price increases for health care products and services, or require additional reporting and disclosure. The laws also include new authorization to the FDA to approve companies to market biosimilar products within the United States, although biosimilar regulation and rulemaking has not yet been adopted. We cannot predict the timing or impact of any such future rulemaking on our business.

Competition

In most instances, the targeted indications for our initial products in development have no effective long-term therapies at this time. However, we do expect that our initial products will have to compete with a variety of therapeutic products and procedures. Other pharmaceutical and biotechnology companies currently offer a

number of pharmaceutical products to treat lysosomal storage diseases, neurodegenerative and liver diseases, 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 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. The market for therapeutic products that address degenerative diseases is large and competition is intense. Many companies have significant products approved or in development that could be competitive with our potential products. We expect competition to increase.

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

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

We expect that all of these products will compete with our potential stem and progenitor cell-based products based on efficacy, safety, cost, and intellectual property positions. While we believe that these will be the primary competitive factors, other factors include, in certain instances, obtaining marketing exclusivity under the Orphan Drug Act, availability of supply, manufacturing, marketing and sales expertise and capability, and reimbursement coverage.

The research markets served by our tools and technologies are highly competitive, complex and dynamic. Technological advances and scientific discoveries have accelerated the pace of change in biological research, and stem cell technologies have been evolving particularly fast. In these markets we face a wide array of competitors, ranging from specialized companies with strengths in niche segments of the life science markets to large manufacturers offering a broad portfolio of products, tools and services. Many of these competitors have significant financial, operational, sales, and marketing resources, and experience in research and development. In some cases, these and other competitors are also our customers, distributors and suppliers. In addition, many of our products can be “home brewed” by customers following publicly available procedures and methodologies.

Reliable independent information on sales and market share of products produced by our competitors is not generally available. We believe, however, based on our own estimates, that no one company is so dominant that it prevents other companies from competing effectively. We compete mainly by focusing on specialty products, which are custom designed for use in stem cell-based research, where we believe our expertise, intellectual property and reputation give us competitive advantage. We believe that, in this particular market niche, our products and technologies offer customers specific advantages over those offered by our competitors. We compete by offering innovative, quality-controlled products, consistently made and designed to produce reproducible results. We continue to make investments in research and development, quality management, quality improvement, and product innovation. We tend to avoid head to head competition against entrenched competitors with commoditized products.

Reverse Stock Split

We effected a 1-for-10 reverse stock split on July 6, 2011. As a result of the reverse stock split, the outstanding shares of common stock issued and outstanding were reduced from approximately 139 million to 13.9 million. Concurrent with the reverse stock split, we reduced the authorized number of common shares from 250 million to 75 million. The reverse stock split proportionately reduced all issued and outstanding shares of our common stock, as well as common stock underlying stock options, warrants and other common stock based equity grants outstanding immediately prior to the effectiveness of the reverse stock split. The exercise price on outstanding equity-based grants was proportionately increased, and the number of shares available under our equity-based plans was proportionately reduced. Share and per share data (except par value) for the periods presented reflect the effects of this reverse stock split. References to numbers of shares of common stock and per share data in the accompanying financial statements and notes thereto have been adjusted to reflect the reverse stock split on a retroactive basis.

Available Information

The following information can be obtained free of charge through our website at http://www.stemcellsinc.com or by sending an e-mail message to irpr@stemcellsinc.com:

- our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to these reports as soon as reasonably practicable after such material is electronically filed with the Securities and Exchange Commission;
- our policies related to corporate governance, including StemCells' Code of Conduct and Ethics and Procedure for Submission of Complaints; and
- the charters of the Audit Committee, the Compensation & Stock Option Committee and the Corporate Governance & Nominating Committee of our Board of Directors.

The public may read and copy any material we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, DC, 20549. The public may obtain information on the operations of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site, http://www.sec.gov, which contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

Item 1A. *RISK FACTORS*

This annual report on Form 10-K contains forward-looking statements that involve risks and uncertainties. Our business, operating results, financial performance, and share price may be materially adversely affected by a number of factors, including *but not limited to the following risk factors, any one of which could cause actual results to vary materially from anticipated results or from those expressed in any forward-looking statements made by us in this annual report on Form 10-K or in other reports, press releases or other statements issued from time to time. Additional factors that may cause such a difference are set forth elsewhere in this annual report on Form 10-K.*

Risks Related to our Business

Any adverse development relating to our HuCNS-SC product candidate, such as a significant clinical trial failure, could substantially depress our stock price and prevent us from raising additional capital.

At present, our ability to progress as a company is significantly dependent on a single product candidate, our HuCNS-SC cells (purified human neural stem cells), and on early stage clinical trials. Any clinical, regulatory or other development that significantly delays or prevents us from completing any of our trials, any material safety issue or adverse side effect to any study participant in any of these trials, or the failure of these trials to show the

results expected would likely depress our stock price significantly and could prevent us from raising the substantial additional capital we will need to further develop our cell technologies. Moreover, any material adverse occurrence in our first clinical trials could substantially impair our ability to initiate additional clinical trials to test our HuCNS-SC cells, whether in other potential indications or otherwise. This, in turn, could adversely impact our ability to raise additional capital and pursue our planned research and development efforts.

We have limited capital resources and we may not obtain the significant additional capital needed to sustain our research and development efforts.

We have limited liquidity and capital resources and must obtain significant additional capital resources in order to sustain our product development efforts, acquire businesses, technologies and intellectual property rights which may be important to our business, continue preclinical and clinical testing of our therapeutic products, pursue regulatory approvals, acquire capital equipment, laboratory and office facilities, establish production capabilities, maintain and enforce our intellectual property portfolio, and support our general and administrative expenses and other working capital requirements. In addition, we will require additional capital resources to continue to develop and grow our enabling cell technologies programs. We rely on cash reserves and proceeds from equity and debt offerings, proceeds from the transfer, license, lease, or sale of our intellectual property rights, equipment, facilities, or investments, and government grants and funding from collaborative arrangements, if obtainable, to fund our operations.

We intend to pursue opportunities for additional fundraising in the future through equity or debt financings, corporate alliances or combinations, grants or collaborative research arrangements, sales or dispositions of assets, or any combination of these. However, external financing in the current financial environment may be particularly difficult, and the source, timing and availability of any future fundraising will depend principally upon market conditions, and, more specifically, on progress in our research, preclinical and clinical development programs. Funding may not be available when needed — at all or on terms acceptable to us. While we actively manage our programs and resources in order to conserve cash between fundraising opportunities, our existing capital resources may not be sufficient to fund our operations beyond the next twelve months. Lack of necessary funds may require us, among other things, to delay, scale back or eliminate some or all of our research and product development programs, planned clinical trials, and/or our capital expenditures or to license our potential products or technologies to third parties. If we exhaust our cash reserves and are unable to realize adequate additional fundraising, we may be unable to meet operating obligations and be required to initiate bankruptcy proceedings or delay, scale back or eliminate some or all of our research and product development programs.

Our product development programs are based on novel technologies and are inherently risky.

We are subject to the risks of failure inherent in the development of products based on new technologies. The novel nature of these therapies creates significant challenges in regard to product development and optimization, manufacturing, government regulation, third party reimbursement, and market acceptance. For example, the pathway to regulatory approval for cell-based therapies, including our therapeutic product candidates, may be more complex and lengthy than the pathway for conventional drugs. These challenges may prevent us from developing and commercializing products on a timely or profitable basis or at all.

Our technologies are at early stages of discovery and development, and we may fail to develop any commercially acceptable or profitable products.

We have incurred significant operating losses and negative cash flows since inception. We have not achieved profitability and may not be able to realize sufficient revenue to achieve or sustain profitability in the future. We have yet to develop any therapeutic products that have been approved for marketing, and we do not expect to become profitable within the next several years, but rather expect to incur additional and increasing operating losses. Before commercializing any therapeutic product, we will need to obtain regulatory approval from the FDA or from equivalent foreign agencies after conducting extensive preclinical studies and clinical

trials that demonstrate that the product candidate is safe and effective. Except for the Phase I NCL and Phase I PMD trials we completed, and our currently ongoing PhaseI/II clinical trial in spinal cord injury, we have had no experience conducting human clinical trials. We expect that none of our cell-based therapeutic product candidates will be commercially available for several years, if at all.

While regulatory agencies in the United States and Switzerland have approved the clinical study of our cells in a total of four indications, there can be no assurance that any of our clinical trials will be completed or result in a successful outcome.

We may elect to delay or discontinue studies or clinical trials based on unfavorable results. Any product developed from, or based on, cell technologies may fail to:

- survive and persist in the desired location;
- provide the intended therapeutic benefit;
- engraft into existing tissue in the desired manner; or
- achieve therapeutic benefits equal to, or better than, the standard of treatment at the time of testing.

In addition, our therapeutic products may cause undesirable side effects. Results of preclinical research in animals may not be indicative of future clinical results in humans.

Ultimately if regulatory authorities do not approve our products or if we fail to maintain regulatory compliance, we would be unable to commercialize our products, and our business and results of operations would be harmed. Even if we do succeed in developing products, we will face many potential obstacles such as the need to develop or obtain manufacturing, marketing and distribution capabilities. Furthermore, because transplantation of cells is a new form of therapy, the marketplace may not accept any products we may develop.

Moreover, because our cell-based therapeutic products will be derived from tissue of individuals other than the patient (that is, they will be “non-self” or “allogeneic” transplant products), patients will likely require the use of immunosuppressive drugs. While immunosuppression is now standard in connection with allogeneic transplants of various kinds, such as heart or liver transplants, long-term maintenance on immunosuppressive drugs can result in complications such as infection, cancer, cardiovascular disease, and renal dysfunction. An immunosuppression regimen was used with our therapeutic product candidate in all our clinical trials to date, and is included in the protocol for our clinical trial for dry age-related macular degeneration.

Our success will depend in large part on our ability to develop and commercialize products that treat diseases other than Pelizeaus-Merzbacher Disease (PMD), NCL or other rare diseases.

Although our initial clinical trials have initially focused on evaluating our neural stem cell product for the treatment of infantile and late infantile NCL (Batten disease) and for Pelizeaus-Merzbacher Disease, these diseases are rare and the markets for treating these diseases are small. Accordingly, even if we obtain marketing approval for our HuCNS-SC product candidate for NCL or for PMD, in order to achieve profitability, we will likely need to obtain approval to treat additional diseases that present more significant market opportunities.

Acquisitions of companies, businesses or technologies may substantially dilute our stockholders and increase our operating losses.

We may make acquisitions of businesses, technologies or intellectual property rights or otherwise modify our business model in ways we believe to be necessary, useful or complementary to our current business. For example, in April 2009, we acquired substantially all of the operating assets and liabilities of Stem Cell Sciences Plc (SCS). Any such acquisition or change in business activities may require assimilation of the operations, products or product candidates and personnel of the acquired business and the training and integration of its

employees, and could substantially increase our operating costs, without any offsetting increase in revenue. Acquisitions may not provide the intended technological, scientific or business benefits and could disrupt our operations and divert our limited resources and management's attention from our current operations, which could harm our existing product development efforts. We would likely issue equity securities to pay for any other future acquisitions. The issuance of equity securities for an acquisition could be substantially dilutive to our stockholders. Any investment made in, or funds advanced to, a potential acquisition target could also significantly adversely affect our results of operation and could further reduce our limited capital resources. Any acquisition or action taken in anticipation of a potential acquisition or other change in business activities could substantially depress the price of our stock. In addition, our results of operations may suffer because of acquisition-related costs or the post-acquisition costs of funding the development of an acquired technology or product candidates or operation of the acquired business, or due to amortization or impairment costs for acquired goodwill and other intangible assets. In December 2011, for example, we determined that the intangible in-process research and development (IPR&D) asset related to the assays technology was impaired. In part because of management's decision to focus on our therapeutic product development programs and not to allocate time and resources to the assays program, we determined that we could not predict the future cash flows from this asset and that the approximately $655,000 carrying value of the asset should be written-off in full.

Costs and disruptions from the management of the acquired SCS business may impair our business.

In April 2009, we acquired substantially all of the operating assets and liabilities of SCS, including its former subsidiaries in England and Australia. To realize the anticipated benefits of this acquisition, we must successfully manage and coordinate business operations in multiple geographies, which is a complex, costly and time-consuming process. Therefore we devote a significant amount of our management's time and attention to managing our operations outside the United States. As a result, we may have difficulty maintaining employee morale and retaining key employees, consultants and collaborators. We may also encounter incompatible methods, practices or policies or unanticipated difficulties integrating information technology, communications and other systems. Managing our consolidated operations may also entail numerous operational, legal and financial risks and uncertainties.

We have payment obligations resulting from real property owned or leased by us in Rhode Island, which diverts funding from our cell-based therapeutics research and development and enabling cell technologies programs.

Prior to our reorganization in 1999 and the consolidation of our business in California, we carried out our former encapsulated cell therapy programs in Lincoln, Rhode Island, where we also had our administrative offices. Although we have vacated the Rhode Island facilities, we remain obligated to make lease payments and payments for operating costs for our former science and administrative facility, which we have leased through June 30, 2013. These costs, before sub-tenant rental income, amounted to approximately $1,863,000 in 2011; our rent payments will increase over the term of the lease, and our operating costs may increase as well. In addition to these costs of our former science and administrative facility, we are obligated to make debt service payments and payments for operating costs of approximately $400,000 per year for our former encapsulated cell therapy pilot manufacturing facility, which we own. We have currently subleased a portion of the science and administrative facility, and we are seeking to sublease the remaining portion, but we cannot be sure that we will be able to keep any part of the facility subleased for the duration of our obligation. We are currently seeking to sublease the pilot manufacturing facility, but may not be able to sublease or sell the facility in the future. These continuing costs significantly reduce our cash resources and adversely affect our ability to fund further development of our cell technologies. In addition, changes in real estate market conditions and assumptions regarding the length of time it may take us to either fully sublease, assign or sell our remaining interest in the our former research facility in Rhode Island may have a significant impact on and cause large variations in our quarter to quarter results of operations. In 1999, in connection with exiting our former research facility in Rhode Island, we created a reserve for the estimated lease payments and operating expenses related to it. The reserve is periodically re-evaluated and adjusted based on assumptions relevant to real estate market conditions and the

estimated time until we can either fully sublease, assign or sell our remaining interests in the property. At December 31, 2011, the reserve was $2,135,000. For the year 2011, we incurred $1,248,000 in operating expenses net of sub-tenant income for this facility. Expenses for this facility will fluctuate based on changes in tenant occupancy rates and other operating expenses related to the lease. Even though it is our intent to sublease, assign, sell, or otherwise divest ourselves of our interests in the facility at the earliest possible time, we cannot determine with certainty a fixed date by which such events will occur. In light of this uncertainty, based on estimates, we will periodically re-evaluate and adjust the reserve, as necessary, and we may make significant adverse adjustments to the reserve in the future.

We may be unable to obtain partners to support our product development efforts when needed to commercialize our technologies.

Equity and debt financings alone may not be sufficient to fund the cost of developing our cell technologies, and we may need to rely on partnering or other arrangements to provide financial support for our product development efforts. In addition, in order to successfully develop and commercialize our technologies, we may need to enter into various arrangements with corporate sponsors, pharmaceutical companies, universities, research groups, and others. With the exception of our distribution agreements with Millipore Corporation, we have no such agreements. While we have engaged, and expect to continue to engage, in discussions regarding such arrangements, we may fail to obtain any such agreement on terms acceptable to us. Even if we enter into such arrangements, we may not be able to satisfy our obligations under them or renew or replace them after their original terms expire. Furthermore, these arrangements may require us to grant rights to third parties, such as exclusive marketing rights to one or more products, may require us to issue securities to our collaborators and may contain other terms that are burdensome to us or result in a decrease in our stock price.

If we are unable to protect our patents and proprietary rights, our business, financial condition and results of operations may be materially harmed.

We either own or exclusively license a number of patents and pending patent applications related to various stem and progenitor cells, including human neural stem cell cultures, as well as methods of deriving and using them. We also own or exclusively license a number of patents and patent applications related to certain mammalian pluripotent and multipotent stem cells, cellular reprogramming, genetic manipulation of stem cells, the creation of genetically engineered animals used for research, technologies that facilitate the identification and isolation of specific stem cell types, and media formulations for the culture of stem cells. The process of obtaining patent protection for products such as those we propose to develop is highly uncertain and involves complex and continually evolving factual, legal and occasionally ethical questions. The governmental authorities that consider patent applications can deny or significantly reduce the patent coverage requested in an application either before or after issuing the patent and procedures exist in all relevant geographies for third parties to challenge even issued patents. In addition, changes to the laws protecting intellectual property rights could adversely impact the perceived or actual value of our Company. Consequently, we do not know whether any of our pending applications will result in the issuance of patents, whether any of our issued patents will be invalidated or restricted, whether any existing or future patents will provide sufficient protection or significant commercial advantage, or whether others will circumvent or invalidate these patents, whether or not lawfully. In addition, our patents may not afford us adequate protection from competing products. Moreover, because patents issue for a limited term, our patents may expire before we can commercialize a product covered by the issued patent claims or before we can utilize the patents profitably. Some of our most important patents begin to expire in 2015.

If we learn of third parties who infringe our patent rights, we may decide to initiate legal proceedings to enforce these rights. In 2006, for example, we filed suit against Neuralstem, Inc. for patent infringement. Patent litigation, including the pending litigation to which we are a party, is inherently unpredictable and highly risky and may result in unanticipated challenges to the validity or enforceability of our intellectual property, antitrust claims or other claims against us, which could result in the loss of these intellectual property rights. Litigation proceedings can be very time-consuming for management and are also very costly and the parties we bring

actions against may have significantly greater financial resources than our own. We may not prevail in these proceedings and if we do not prevail we could be liable for damages as well as the costs and attorney fees of our opponents.

Proprietary trade secrets and unpatented know-how are also important to our research and development activities. We cannot be certain that others will not independently develop the same or similar technologies on their own or gain access to our trade secrets or disclose such technology or that we will be able to meaningfully protect our trade secrets and unpatented know-how. We require our employees, consultants and significant scientific collaborators and sponsored researchers to execute confidentiality agreements upon the commencement of an employment or consulting relationship with us. These agreements may, however, fail to provide meaningful protection or adequate remedies for us in the event of unauthorized use, transfer or disclosure of such information or technology.

If we are unable to obtain necessary licenses to third-party patents and other rights, we may not be able to commercially develop our expected products.

A number of pharmaceutical, biotechnology and other companies, universities and research institutions have filed patent applications or have received patents relating to cell therapy, stem and progenitor cells and other technologies potentially relevant to, or necessary for, our expected products. We cannot predict which, if any, of these applications will issue as patents or how many of these issued patents will be found valid and enforceable. There may also be existing issued patents which we are currently unaware of which would be infringed by the commercialization of one or more of our product candidates. If so, we may be prevented from commercializing these products unless the third party is willing to grant a license to us. We may be unable to obtain licenses to the relevant patents at a reasonable cost, if at all, and may also be unable to develop or obtain alternative non-infringing technology. If we are unable to obtain such licenses or develop non-infringing technology at a reasonable cost, our business could be significantly harmed. Also, any infringement lawsuits commenced against us may result in significant costs, divert our management's attention and result in an award against us for substantial damages, or potentially prevent us from continuing certain operations.

We are aware of intellectual property rights held by third parties that relate to products or technologies we are developing. For example, some aspects of our cell-based therapeutic product candidates involve the use of growth factors, antibodies and other reagents that may, in certain cases, be the subject of third party rights. Before we commercialize any product using these growth factors, antibodies or reagents, we may need to obtain license rights from third parties or use alternative growth factors, antibodies and reagents that are not then the subject of third party patent rights. We currently believe that the commercialization of our products as currently planned will not infringe these third party rights, or, alternatively, that we will be able to obtain necessary licenses or otherwise use alternative non-infringing technology. However, third parties may nonetheless bring suit against us claiming infringement. If we are unable to prove that our technology does not infringe their patents, or if we are unable to obtain necessary licenses or otherwise use alternative non-infringing technology, we may not be able to commercialize any products.

We have obtained rights from companies, universities and research institutions to technologies, processes and compounds that we believe may be important to the development of our products. These licensors, however, may cancel our licenses or convert them to non-exclusive licenses if we fail to use the relevant technology or otherwise breach these agreements. Loss of these licenses could expose us to the risk that our technology infringes the rights of third parties. We can give no assurance that any of these licenses will provide effective protection against our competitors.

We compete with companies that have significant advantages over us.

The market for therapeutic products to treat diseases of, or injuries to, the central nervous system (CNS) is large and competition is intense. The majority of the products currently on the market or in development are small molecule pharmaceutical compounds, and many pharmaceutical companies have made significant

commitments to the CNS field. We believe cellular therapies, if proven safe and effective, will have unique properties that will make them desirable over small molecule drugs, none of which currently replace damaged tissue. However, any cell-based therapeutic to treat diseases of, or injuries to, the CNS is likely to face intense competition from small molecules, biologics, as well as medical devices. We expect to compete with a host of companies, some of which are privately owned and some of which have resources far greater than ours.

In the liver field, there are no broad-based therapies for the treatment of liver disease at present. The primary therapy is liver transplantation, which is limited by the availability of matched donor organs. Liver-assist devices, when and if they become available, could also be used to help patients while they await suitably matched organs for transplantation. Liver transplantation may remain the standard of care even if we successfully develop a cellular therapy. In addition, new therapies may become available before we successfully develop a cell-based therapy for liver disease.

The life science and research markets are each highly competitive. Most of our competitors have greater financial resources than we do, making them better equipped to license technologies and intellectual property from third parties or to fund research and development, manufacturing and marketing efforts. Our competitors can be expected to continue to improve the design and performance of their products and to introduce new products with competitive price and performance characteristics. In order to compete successfully in these markets, we will likely need to continue to invest in research and development, sales and marketing and customer service and support. We cannot assure you that we will have sufficient resources to continue to make such investments.

The research market is heavily dependent on government funding, and changes in government funding can adversely affect revenues for our tools and technologies products.

Our customers include researchers at academic institutions, pharmaceutical and biotechnology companies and government laboratories, all of whom fund much of their stem cell research using government monies, such as grants. A number of these customers, for example, are dependent for their funding upon grants from U.S. government agencies, such as the U.S. National Institutes of Health (NIH) and agencies in other countries. The level of government funding of research and development is unpredictable. Research and development spending of our customers can fluctuate based on spending priorities and, as was experienced in 2009, general economic conditions. There have been instances when NIH grants have been frozen or otherwise unavailable for extended periods. The availability of governmental research funding may also continue to be adversely affected by the current economic downturn. Any reduction or delay in governmental funding could cause our customers to delay or forego purchases or reallocate their budgets in a manner adverse to us, in which case our anticipated revenues could be materially lower.

Development of our technologies is subject to, and restricted by, extensive government regulation, which could impede our business.

Our research and development efforts, as well as any ongoing or future clinical trials, and the manufacturing and marketing of any products we may develop, will be 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 for human therapeutics is lengthy, expensive and uncertain. FDA and other legal and regulatory requirements applicable to the development and manufacture of the cells and cell lines required for our preclinical and clinical products could substantially delay or prevent us from producing the cells needed to initiate additional clinical trials. We or our collaborators may fail to obtain the necessary approvals to commence or continue clinical testing or to manufacture or market our potential products in reasonable time frames, if at all. In addition, the U.S. Congress and other legislative bodies may enact regulatory reforms or restrictions on the development of new therapies that could adversely affect the regulatory environment in which we operate or the development of any products we may develop.

We base our research and development on the use of human stem and progenitor cells obtained from human tissue, including fetal tissue. The U.S. federal and state governments and other jurisdictions impose restrictions on the acquisition and use of fetal tissue, including those incorporated in federal Good Tissue Practice, or GTP, regulations. These regulatory and other constraints could prevent us from obtaining cells and other components of our products in the quantity or quality needed for their development or commercialization of both therapeutic products and certain of our enabling cell technologies. These restrictions change from time to time and may become more onerous. Additionally, we may not be able to identify or develop reliable sources for the cells necessary for our potential products — that is, sources that follow all state and federal laws and guidelines for cell procurement. Certain components used to manufacture our stem and progenitor cell product candidates will need to be manufactured in compliance with the FDA's Good Manufacturing Practices, or GMP. Accordingly, we will need to enter into supply agreements with companies that manufacture these components to GMP standards.

Noncompliance with applicable requirements both before and after product marketing approval, if any, can subject us, our third party suppliers and manufacturers, and our other collaborators to administrative and judicial sanctions, such as, among other things, warning letters, fines and other monetary payments, recall or seizure of products, criminal proceedings, suspension or withdrawal of regulatory approvals, interruption or cessation of clinical trials, total or partial suspension of production or distribution, injunctions, limitations on or the elimination of claims we can make for our products, and refusal of the government to enter into supply contracts or fund research, or delay in approving or refusal to approve new drug applications.

We are dependent on the services of key personnel.

We are highly dependent on the principal members of our management and scientific staff, including our chief executive officer, our vice presidents, and the heads of key departments or functions, and on some of our outside consultants. Although we have entered into employment agreements with some of these individuals, they may terminate their agreements at any time. In addition, our operations are dependent upon our ability to attract and retain additional qualified scientific and management personnel. We may not be able to attract and retain the personnel we need on acceptable terms given the competition for experienced personnel among pharmaceutical, biotechnology and health care companies, universities and research institutions.

Our activities involve hazardous materials and experimental animal testing; improper handling of these animals and materials by our employees or agents could expose us to significant legal and financial penalties.

Our research and development activities involve the controlled use of test animals as well as hazardous chemicals and potentially hazardous biological materials such as human tissue. Their use subjects us to environmental and safety laws and regulations such as those governing laboratory procedures, exposure to blood-borne pathogens, use of laboratory animals, and the handling of biohazardous materials. Compliance with current or future laws and regulations may be expensive and the cost of compliance could adversely affect us.

Although we believe that our safety procedures for using, handling, storing, and disposing of hazardous and potentially hazardous materials comply with the standards prescribed by applicable state, federal and international law, the risk of accidental contamination or injury from these materials cannot be eliminated. In the event of such an accident or of any violation of these or future laws and regulations, state or federal authorities could curtail our use of these materials; we could be liable for any civil damages that result, the cost of which could be substantial; and we could be subjected to substantial fines or penalties. In addition, any failure by us to control the use, disposal, removal, or storage, or to adequately restrict the discharge, or to assist in the cleanup, of hazardous chemicals or hazardous, infectious or toxic substances could subject us to significant liability. Any such liability could exceed our resources and could have a material adverse effect on our business, financial condition and results of operations. Moreover, an accident could damage our research and manufacturing facilities and operations and result in serious adverse effects on our business.

Natural disasters and violent acts of public protest may cause damage or disruption to us and our employees, facilities, information systems, vendors, and customers.

Our operations are concentrated in Northern California. The western United States has experienced a number of earthquakes, wildfires, flooding, landslides, and other natural disasters in recent years. These occurrences could damage or destroy our facilities which may result in interruptions to our business and losses that exceed our insurance coverage. In addition, we know that certain individuals are strenuously opposed to certain types of medical research, including animal testing and embryonic stem cell research engaged in by both us and many of our customers. Acts of both legal and illegal public protest, including picketing and bioterrorism, could affect the markets in which we operate and our business operations. Any of these events could cause a decrease in both our actual and anticipated revenue, earnings and cash flows.

The development, manufacturing and commercialization of cell-based therapeutic products expose us to product liability claims, which could lead to substantial liability.

By developing and, ultimately, commercializing therapeutic products, we are exposed to the risk of product liability claims. Product liability claims against us could result in substantial litigation costs and damage awards against us. We have obtained liability insurance that covers our clinical trials, and we will need to increase our insurance coverage if and when we begin commercializing products. We may not be able to obtain insurance on acceptable terms, if at all, and the policy limits on our insurance policies may be insufficient to cover our liability.

The manufacture of cell-based therapeutic products is novel, highly regulated, critical to our business, and dependent upon specialized key materials.

The manufacture of cell-based and related products is complicated and difficult, dependent upon substantial know-how and subject to the need for continual process improvements to be competitive. Our manufacturing experience is limited and the technologies are comparatively new. In addition, our ability to scale-up manufacturing to satisfy the various requirements of our planned clinical trials, such as GTP, GMP and release testing requirements, is uncertain. Manufacturing disruptions may occur and despite efforts to regulate and control all aspects of manufacturing, the potential for human or system failure remains. Manufacturing irregularities or lapses in quality control could have a serious adverse effect on our reputation and business, which could cause a significant loss of stockholder value. Many of the materials that we use to prepare our cell-based and related products are highly specialized, complex and available from only a limited number of suppliers or derived from a biological origin. At present, some of our material requirements are single sourced, and the loss of one or more of these sources may adversely affect our business if we are unable to obtain alternatives or alternative sources at all or upon terms that are acceptable to us.

Because health care insurers and other organizations may not pay for our products or may impose limits on reimbursements, our ability to become profitable could be adversely affected.

In both domestic and foreign markets, sales of potential therapeutic products are likely to depend in part upon the availability and amounts of reimbursement from third-party health care payor organizations, including government agencies, private health care insurers and other health care payors, such as health maintenance organizations and self-insured employee plans. There is considerable pressure to reduce the cost of therapeutic products. Government and other third party payors are increasingly attempting to contain health care costs by limiting both coverage and the level of reimbursement for new therapeutic products and by refusing, in some cases, to provide any coverage for uses of approved products for disease indications for which the FDA or other relevant authority has not granted marketing approval. Moreover, in some cases, government and other third party payors have refused to provide reimbursement for uses of approved products for disease indications for which the FDA or other relevant authority has granted marketing approval. Significant uncertainty exists as to the reimbursement status of newly approved health care products or novel therapies such as ours. Even if we obtain regulatory approval to market our products, we can give no assurance that reimbursement will be provided

by such payors at all or without substantial delay or, if such reimbursement is provided, that the approved reimbursement amounts will be sufficient to enable us to sell products we develop on a profitable basis. Changes in reimbursement policies could also adversely affect the willingness of pharmaceutical companies to collaborate with us on the development of our cellular technologies. In certain foreign markets, pricing or profitability of prescription pharmaceuticals is subject to government control. We also expect that there will continue to be a number of federal and state proposals to implement government control over health care costs. Efforts to change regulatory and reimbursement standards are likely to continue in future legislative sessions. We do not know what legislative proposals federal or state governments will adopt or what actions federal, state or private payors for health care goods and services may take in response to such proposals or legislation. We cannot predict the effect of government control and health care reimbursement practices on our business.

Ethical and other concerns surrounding the use of stem or progenitor-based cell therapy may negatively affect regulatory approval or public perception of our product candidates, which could reduce demand for our products or depress our stock price.

The use of stem cells for research and therapy has been the subject of considerable public debate, with many people voicing ethical, legal and social concerns. Although these concerns have mainly been directed to the use of embryonic stem cells, which we are not presently pursuing for therapeutic use, the distinction between embryonic and non-embryonic stem cells is frequently overlooked; moreover, our use of human stem or progenitor cells from fetal sources might raise these or similar concerns. In addition, we are continuing the development of embryonic stem cells and iPS cells as potential research tools, and we may in the future explore their applicability as cell-based therapeutic products. Negative public attitudes toward stem cell therapy could result in greater governmental regulation of stem cell therapies, which could harm our business. The use of these cells could give rise to ethical and social commentary adverse to us, which could harm the market price of our common stock. Additional government-imposed restrictions on the use of embryos or human embryonic stem cells in research and development could also cause an adverse effect on us by harming our ability to establish important partnerships or collaborations, delaying or preventing the development of certain non-therapeutic products, and causing a decrease in the price of our stock or by otherwise making it more difficult for us to raise additional capital. For example, concerns regarding such possible regulation could impact our ability to attract collaborators and investors. Also, existing regulatory constraints on the use of embryonic stem cells may in the future be extended to use of fetal stem cells, and these constraints might prohibit or restrict us from conducting research or from commercializing products. Similarly, concerns and moral objections to embryonic and fetal-tissue derived technologies could delay or prevent us from patenting or enforcing our patents in certain geographies. Also, existing and potential government regulation of embryonic tissue may lead researchers to leave the field of stem cell research or the country altogether, in order to assure that their careers will not be impeded by restrictions on their work. Similarly, these factors may induce graduate students to choose other fields less vulnerable to changes in regulatory oversight, thus exacerbating the risk that we may not be able to attract and retain the scientific personnel we need in face of the competition among pharmaceutical, biotechnology and health care companies, universities and research institutions for what may become a shrinking class of qualified individuals.

Our corporate documents and Delaware law contain provisions that could make it difficult for us to be acquired in a transaction that might be beneficial to our stockholders.

Our board of directors has the authority to issue shares of preferred stock and to fix the rights, preferences, privileges, and restrictions of these shares without stockholder approval. These provisions in our corporate documents, along with certain provisions under Delaware law, may make it more difficult for a third party to acquire us or discourage a third party from attempting to acquire us, even if the acquisition might be beneficial to our stockholders.

Risks Related to Our Stock

Our stock price has been, and will likely continue to be, highly volatile, which may negatively affect our ability to obtain additional financing in the future.

The market price per share of our common stock has been and is likely to continue to be highly volatile due to the risks and uncertainties described in this section of this Annual Report on Form 10-K, as well as other factors, including:

- our ability to develop and test our technologies;
- our ability to patent or obtain licenses to necessary technologies;
- conditions and publicity regarding the industry in which we operate, as well as the specific areas our product candidates seek to address;
- competition in our industry;
- economic and other external factors or other disasters or crises;
- price and volume fluctuations in the stock market at large that are unrelated to our operating performance; and
- comments by securities analysts, or our failure to meet market expectations.

Over the two-year period ended December 31, 2011, the trading price of our common stock as reported on the NASDAQ Global Market ranged from a high of $15.80 to a low of $0.70 per share. As a result of this volatility, an investment in our stock is subject to substantial risk. Furthermore, the volatility of our stock price could negatively impact our ability to raise capital or acquire businesses or technologies.

Our stock could be delisted from the NASDAQ Global Market, which could affect our stock's market price and liquidity.

Our common stock is currently listed on the NASDAQ Global Market. If we fail to satisfy any of the listing requirements of the NASDAQ Stock Market ("NASDAQ"), our common stock may be put under review or removed from listing on the NASDAQ Global Market.

On March 3, 2011, we were notified by NASDAQ that the closing bid price of our common stock had been below $1.00 per share for 30 consecutive business days, and therefore we did not meet the requirements for continued listing on the NASDAQ Global Market. In accordance with NASDAQ rules, we had 180 calendar days, or until August 30, 2011, to regain compliance with this minimum bid price requirement by having our common stock close at a price of $1.00 per share or higher for a minimum of ten consecutive business days during the initial 180-day compliance period. In July 2011, following the affirmative vote of our stockholders at our Annual Meeting, we effected a one-for-ten reverse stock split. Later in July 2011, we received notification from NASDAQ that we had regained compliance with the minimum bid price requirement for continued listing on the NASDAQ Global Market.

We are contractually obligated to issue shares in the future, diluting the interest of current stockholders.

As of December 31, 2011, there were outstanding warrants to purchase 17,434,483 shares of our common stock, at a weighted average exercise price of $2.92 per share, outstanding options to purchase 875,494 shares of our common stock, at a weighted average exercise price of $20.13 per share, and outstanding restricted stock units for 357,541 shares of our common stock. We expect to issue additional options and restricted stock units to purchase shares of our common stock to compensate employees, consultants and directors, and may issue additional shares to raise capital, to acquire other companies or technologies, to pay for services, or for other corporate purposes. Any such issuances will have the effect of diluting the interest of current stockholders.

Item 1B. *UNRESOLVED STAFF COMMENTS*

None

Item 2. *PROPERTIES*

In December 2010, we entered into a commercial lease agreement with BMR-Gateway Boulevard LLC ("BMR"), as landlord, for approximately 43,000 square feet of office and research space at BMR's Pacific Research Center in Newark, California. The initial term of the lease is approximately eleven and one-half years, and we relocated our corporate headquarters and core research activities from a facility located at the Stanford Research Park in Palo Alto, California, to this facility in July 2011. The lease for the Palo Alto facility expired on August 31, 2011. We will pay approximately $18,000,000 in aggregate as rent over the term of the lease to BMR. As part of the lease, BMR agreed to provide various financial allowances so that we can build initial and future laboratories, offices and other improvements, subject to customary terms and conditions relating to landlord-funded tenant improvements. As part of the lease, we have until January 2013 an option to lease up to an additional 30,000 square feet in the building.

In September 2010, we entered into a two-year sublease agreement with Caliper Life Sciences, Inc., for approximately 13,200 square feet in a facility located in Mountain View, California for part of our R&D operations. We will pay approximately $695,000 in aggregate as rent over the term of the lease.

We continue to lease a facility in Lincoln, Rhode Island obtained in connection with our former encapsulated cell technology: our former research laboratory and corporate headquarters building which contains 62,500 square feet of wet labs, specialty research areas and administrative offices held on a lease agreement that goes through June 2013, as well as own a 21,000 square-foot pilot manufacturing facility and a 3,000 square-foot cell processing facility financed by bonds issued by the Rhode Island Industrial Facilities Corporation. We have subleased small portions of the 62,500 square foot facility, amounting to approximately 30 percent of the total space. We are actively seeking to sublease, assign or sell our remaining interests in these properties.

In January 2011, we amended the existing lease agreements of our wholly-owned subsidiary, Stem Cell Sciences (U.K.) Ltd, effectively reducing our leased space from approximately 5,000 square feet to approximately 1,900 square feet of office and lab space. We expect to pay approximately $60,000 as rental payments for 2012. StemCells, Inc. is the guarantor of Stem Cell Sciences (U.K.) Ltd's obligations under the existing lease.

Item 3. *LEGAL PROCEEDINGS*

In July 2006, we filed suit against Neuralstem, Inc. in the Federal District Court for the District of Maryland, alleging that Neuralstem's activities violate claims in four of the patents we exclusively licensed from NeuroSpheres, specifically U.S. Patent No. 6,294,346 (claiming the use of human neural stem cells for drug screening), U.S. Patent No. 7,101,709 (claiming the use of human neural stem cells for screening biological agents), U.S. Patent No. 5,851,832 (claiming methods for proliferating human neural stem cells), and U.S. Patent No. 6,497,872 (claiming methods for transplanting human neural stem cells). In May 2008, we filed a second patent infringement suit against Neuralstem and its two founders, Karl Johe and Richard Garr. In this suit, which we filed in the Federal District Court for the Northern District of California, we allege that Neuralstem's activities infringe claims in two patents we exclusively license from NeuroSpheres, specifically U.S. Patent No. 7,361,505 (claiming composition of matter of human neural stem cells derived from any source material) and U.S. Patent No. 7,115,418 (claiming methods for proliferating human neural stem cells). In addition, we allege various state law causes of action against Neuralstem arising out of its repeated derogatory statements to the public about our patent portfolio. Also in May 2008, Neuralstem filed suit against us and NeuroSpheres in the Federal District Court for the District of Maryland seeking a declaratory judgment that the '505 and '418 patents are either invalid or are not infringed by Neuralstem and that Neuralstem has not violated California state law. In

August 2008, the California court transferred our lawsuit against Neuralstem to Maryland for resolution on the merits. In July 2009, the Maryland District Court granted our motion to consolidate these two cases with the litigation we initiated against Neuralstem in 2006. Discovery is ongoing in these cases and we anticipate a trial date in late 2012 or early 2013.

In addition to the actions described above, in April 2008, we filed an opposition to Neuralstem's European Patent No. 0 915 968 (methods of isolating, propagating and differentiating CNS stem cells), because the claimed invention is believed by us to be unpatentable over prior art, including the patents exclusively licensed by us from NeuroSpheres. In December 2010, the European Patent Office ruled that all composition claims in Neuralstem's '968 European patent were invalid and unpatentable over prior art including several of the NeuroSpheres patents licensed to us. Neuralstem has appealed this decision.

Effective 2008, as part of an indemnification agreement with NeuroSpheres, we are entitled to offset all litigation costs incurred in this patent infringement suit, against amounts that would otherwise be owed to NeuroSpheres under our exclusive license agreements with NeuroSpheres, such as annual maintenance fees, milestones and royalty payments. Under the terms of our license agreements, we are required to make annual payments of $50,000 to NeuroSpheres, and we expect to make these annual payments through the remaining life of the patent which, at December 31, 2010, was approximately 14 years. We have therefore capitalized $700,000 (14 years at $50,000 per year) to offset litigation costs. The amount capitalized is not dependent on the achievement of any milestones or related to any other contingent payments which may become due under the arrangement. We will reduce this asset by $50,000 per year in lieu of the cash payments due to NeuroSpheres. As the $50,000 annual payments are fully creditable against royalties due to Neurospheres, we have classified the capitalized amount as prepaid royalties under "Other assets, non-current" on our accompanying Consolidated Balance Sheets. We have concluded that the estimated balance of $650,000, as of December 31, 2011, is a fair estimate and realizable against future milestone and royalty payments to NeuroSpheres, and that litigation costs incurred above this amount will be expensed as incurred. Management will reevaluate this estimate on a quarterly basis based on actual costs and other relevant factors.

Item 4. ***MINE SAFETY DISCLOSURES***

Not applicable.

PART II

Item 5. ***MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED SHAREHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES***

(a) Market price and dividend information

Our stock is traded on the NASDAQ Global Market under the symbol STEM. The quarterly ranges of high and low bid prices per share for the last two fiscal years as reported by NASDAQ are shown below:

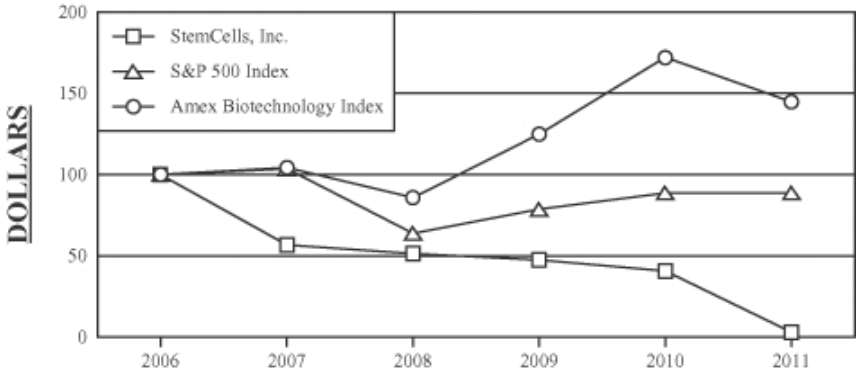
	High	Low
2011		
First Quarter	$ 11.20	$ 7.80
Second Quarter	$ 9.76	$ 5.05
Third Quarter	$ 6.58	$ 4.30
Fourth Quarter	$ 2.14	$ 0.70
2010		
First Quarter	$ 15.80	$ 11.20
Second Quarter	$ 12.20	$ 8.90
Third Quarter	$ 11.90	$ 7.50
Fourth Quarter	$ 12.70	$ 7.80

Share prices have been adjusted for the 1-for-10 reverse stock split effected in July 2011. No cash dividends have been declared on our common stock since our inception.

PERFORMANCE GRAPH

We show below the cumulative total return to our stockholders during the period from December 31, 2006 through December 31, 2011 [3] in comparison to the cumulative return on the Standard & Poor's 500 Index and the Amex Biotechnology Index during that same period.

The stock price performance shown on the graph below is not necessarily indicative of future stock price performance.



	December 31, 2006	December 31, 2007	December 31, 2008	December 31, 2009	December 31, 2010	December 31, 2011
StemCells, Inc.	$ 100.00	$ 56.60	$ 51.32	$ 47.55	$ 40.75	$ 3.09
S&P 500 Index	$ 100.00	$ 103.53	$ 63.69	$ 78.62	$ 88.67	$ 88.67
Amex Biotechnology Index	$ 100.00	$ 104.28	$ 85.80	$ 124.91	$ 172.04	$ 144.70

(3) Cumulative total returns assume a hypothetical investment of $100 on December 31, 2006.

The information under "Performance Graph" is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference in any Company filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this 10-K and irrespective of any general incorporation language in those filings.

(b) Approximate Number of Holders of Common Stock

As of March 2, 2012, there were approximately 235 holders of record of our common stock and the closing price of our common stock on the NASDAQ Global Market was $1.07 per share.

The number of record holders is based upon the actual number of holders registered on the books of our transfer agent at such date and does not include holders of shares in "street names" or persons, partnerships, associations, corporations, or other entities identified in security position listings maintained by depository trust companies.

(c) Recent Sales of Unregistered Securities (last three years ending December 31, 2011)

We did not issue unregistered securities in 2011.

Equity Compensation Plan Information

The following table provides certain information with respect to all of our equity compensation plans in effect as of December 31, 2011.

	Equity Compensation Plan Information		
Plan Category	Number of Securities to be Issued upon Exercise of Outstanding Stock Options, Warrants and Rights (a)	Weighted-Average Exercise Price of Outstanding Stock Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column(a)) (c)
Equity compensation plans approved by security holders(1)	1,233,040	$ 14.29	1,039,966

(1) Consists of stock options issued to employees and directors, restricted stock units issued to employees and stock options issued as compensation to consultants for consultation services. These stock options and restricted stock units were issued under our 1992 Equity Incentive Plan, Directors' Stock Option Plan, StemCells, Inc. Stock Option Plan, and our 2001, 2004 and 2006 Equity Incentive Plans.

Item 6. *SELECTED FINANCIAL DATA*

The following selected financial and operating data are derived from our audited consolidated financial statements. The selected financial and operating data should be read in conjunction with "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operation" and the consolidated financial statements and notes thereto contained elsewhere in this Form 10-K.

	Year Ended December 31,				
	2011	2010	2009	2008	2007
	(In thousands, except per share amounts)				
Consolidated Statements of Operations					
Revenue from licensing agreements and grants	$ 558	$ 928	$ 608	$ 232	$ 57
Revenue from product sales	663	499	385	—	—
Research and development expenses	19,938	21,019	19,930	17,808	19,937
General and administrative expenses	8,202	9,377	9,530	8,296	7,927
Wind-down expenses(1)	287	222	650	866	783
Impairment of intangible asset(2)	655	—	—	—	—
Gain (loss) on change in fair value of warrant liabilities(3)	6,612	3,005	1,899	(937)	—
Net loss	(21,329)	(25,244)	(27,026)	(29,087)	(25,023)
Basic and diluted loss per share	$ (1.50)	$ (2.05)	$ (2.55)	$ (3.52)	$ (3.14)
Shares used in computing basic and diluted loss per share amounts	14,188	12,330	10,605	8,272	7,977

	December 31,				
	2011	2010	2009	2008	2007
	(In thousands)				
Consolidated Balance Sheets					
Cash and cash equivalents	$ 13,311	$ 19,708	$ 38,618	$ 30,043	$ 9,759
Marketable securities	3,281	191	197	4,182	29,847
Total assets	25,205	30,602	51,190	41,230	48,283
Accrued wind-down expenses(1)	2,135	3,300	4,506	5,513	6,143
Fair value of warrant liabilities(3)	6,042	6,672	9,677	8,440	—
Long-term debt, including capital leases	331	540	785	867	1,034
Stockholders' equity	10,725	15,481	30,495	21,809	35,212

(1) Relates to wind-down and exit expenses in respect of our Rhode Island facility and relocation of our operations in Australia. See Note 11 "Wind-down and exit costs" in the Notes to the Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information.

(2) Relates to the impairment of our intangible asset. See Note 6 "Goodwill and Other Intangible assets" in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information.

(3) Relates to the fair value of warrants issued as part of our financings in November 2008, November 2009 and December 2011. See Note 13 "Warrant Liability" in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information.

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

This report contains forward looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act that involve substantial risks and uncertainties. Such statements include, without limitation, all statements as to expectation or belief and statements as to our future results of operations; the progress of our research, product development and clinical programs; the need for, and timing of, additional capital and capital expenditures; partnering prospects; costs of manufacture of products; the protection of, and the need for, additional intellectual property rights; effects of regulations; the need for additional facilities; and potential market opportunities. Our actual results may vary materially from those contained in such forward-looking statements because of risks to which we are subject, including the fact that additional trials will be required to confirm the safety and demonstrate the efficacy of our HuCNS-SC cells for the treatment of Pelizeaus-Merzbacher disease (PMD), spinal cord injury, and age-related macular degeneration (AMD) or any other disease; uncertainty as to whether the U.S. Food and Drug Administration (FDA), Swissmedic, or other regulatory authorities will permit us to proceed with clinical testing of proposed products despite the novel and unproven nature of our technologies; the risk that our clinical trials or studies could be substantially delayed beyond their expected dates or cause us to incur substantial unanticipated costs; uncertainties in our ability to obtain the capital resources needed to continue our current research and development operations and to conduct the research, preclinical development and clinical trials necessary for regulatory approvals; the uncertainty regarding our ability to obtain a corporate partner or partners, if needed, to support the development and commercialization of our potential cell-based therapeutics products; the uncertainty regarding the outcome of our clinical trials or studies we may conduct in the future; the uncertainty regarding the validity and enforceability of our issued patents; the risk that we may not be able to manufacture additional master and working cell banks when needed; the uncertainty whether any products that may be generated in our cell-based therapeutics programs will prove clinically safe and effective; the uncertainty whether we will achieve significant revenue from product sales or become profitable; uncertainties regarding our obligations with respect to our former facilities in Rhode Island; obsolescence of our technologies; competition from third parties; intellectual property rights of third parties; litigation risks; and other risks to which we are subject. All forward-looking statements attributable to us or to persons acting on our behalf are expressly qualified in their entirety by the cautionary statements and risk factors set forth in "Risk Factors" in Part I, Item 1A of this Form 10-K.

Overview

The Company

We are engaged in researching, developing, and commercializing stem cell therapeutics and enabling tools and technologies for stem cell-based research and drug discovery and development. Our research and development (R&D) programs are primarily focused on identifying and developing potential cell-based therapeutics which can either restore or support organ function. In particular, since we relocated our corporate headquarters to California in 1999, our R&D efforts have been directed at refining our methods for identifying, isolating, culturing, and purifying the human neural stem cell and human liver engrafting cells (hLEC) and developing these as potential cell-based therapeutics for the central nervous system (CNS) and the liver, respectively. In our CNS Program, our HuCNS-SC® product candidate (purified human neural stem cells) is currently in clinical development for several indications— Pelizeaus-Merzbacher Disease (PMD), a myelination disorder in the brain, chronic spinal cord injury and dry age-related macular degeneration (AMD). In February 2012, we completed our Phase I clinical trial in PMD, and the data from this trial is expected to be reported in late March 2012. We are conducting a Phase I/II clinical trial in Switzerland for the treatment of chronic spinal cord injury. This trial was authorized by Swissmedic and we completed the enrollment and dosing of the first patient cohort of this trial in December 2011. In January 2012, we received authorization from the FDA to conduct a Phase I/II clinical trial in dry AMD, and we expect to initiate this trial later in 2012. We previously completed a Phase I clinical trial in infantile and late infantile NCL, and the data from that trial showed that our HuCNS-SC cells were well tolerated and non-tumorigenic, and that there was evidence of engraftment and long-term survival of the transplanted HuCNS-SC cells. In our Liver Program, we are focused on identifying and

developing liver cells as potential therapeutics for a range of liver diseases. We have identified a subset of our human liver engrafting cells (hLEC) which we believe may be a candidate for product development. In October 2011, we formed a wholly-owned subsidiary to focus on both the therapeutic and research tool applications of our hLEC technologies and to serve as an investment vehicle for those interested in a "pure play" liver cell company. For a brief description of our significant therapeutic research and development programs see Overview "Research and Development Programs" in the Business Section of Part I, Item 1 of this Form 10-K. We have also conducted research on several other cell types and in other areas, which could lead to other possible product candidates, process improvements or further research activities.

We are also engaged in developing and commercializing applications of our technologies to enable research, which we believe represent current and nearer-term commercial opportunities. Our portfolio of technologies includes cell technologies relating to embryonic stem cells, induced pluripotent stem (iPS) cells, and tissue-derived (adult) stem cells; expertise and infrastructure for providing cell-based assays for drug discovery; a cell culture products and antibody reagents business; and an intellectual property portfolio with claims relevant to cell processing, reprogramming and manipulation, as well as to gene targeting and insertion. Many of these enabling technologies were acquired in April 2009 as part of our acquisition of the operations of Stem Cell Sciences Plc (SCS). See Note 5, "Acquisition of SCS Operations," in the Notes to Consolidated Financial Statements in Part II, Item 8 of this Form 10-K for further information.

We have not derived any revenue or cash flows from the sale or commercialization of any products except for license revenue for certain of our patented cells and sales of cell culture products for use in research. As a result, we have incurred annual operating losses since inception and expect to incur substantial operating losses in the future. Therefore, we are dependent upon external financing from equity and debt offerings and revenue from collaborative research arrangements with corporate sponsors to finance our operations. We have no such collaborative research arrangements at this time and there can be no assurance that such financing or partnering revenue will be available when needed or on terms acceptable to us.

Before we can derive revenue or cash inflows from the commercialization of any of our therapeutic product candidates, we will need to: (i) conduct substantial *in vitro* testing and characterization of our proprietary cell types, (ii) undertake preclinical and clinical testing for specific disease indications; (iii) develop, validate and scale-up manufacturing processes to produce these cell-based therapeutics, and (iv) obtain required regulatory approvals. These steps are risky, expensive and time consuming.

Overall, we expect our R&D expenses to be substantial and to increase for the foreseeable future as we continue the development and clinical investigation of our current and future product candidates. However, expenditures on R&D programs are subject to many uncertainties, including whether we develop our product candidates with a partner or independently. We cannot forecast with any degree of certainty which of our current product candidates will be subject to future collaboration, when such collaboration agreements will be secured, if at all, and to what degree such arrangements would affect our development plans and capital requirements. In addition, there are numerous factors associated with the successful commercialization of any of our cell-based therapeutics, including future trial design and regulatory requirements, many of which cannot be determined with accuracy at this time given the stage of our development and the novel nature of stem cell technologies. The regulatory pathways, both in the United States and internationally, are complex and fluid given the novel and, in general, clinically unproven nature of stem cell technologies. At this time, due to such uncertainties and inherent risks, we cannot estimate in a meaningful way the duration of, or the costs to complete, our R&D programs or whether, when or to what extent we will generate revenues or cash inflows from the commercialization and sale of any of our therapeutic product candidates. While we are currently focused on advancing each of our product development programs, our future R&D expenses will depend on the determinations we make as to the scientific and clinical prospects of each product candidate, as well as our ongoing assessment of the regulatory requirements and each product candidate's commercial potential.

Given the early stage of development of our therapeutic product candidates, any estimates of when we may be able to commercialize one or more of these products would not be meaningful. Moreover, any estimate of the

time and investment required to develop potential products based upon our proprietary HuCNS-SC and hLEC technologies will change depending on the ultimate approach or approaches we take to pursue them, the results of preclinical and clinical studies, and the content and timing of decisions made by the FDA, Swissmedic and other regulatory authorities. There can be no assurance that we will be able to develop any product successfully, or that we will be able to recover our development costs, whether upon commercialization of a developed product or otherwise. We cannot provide assurance that any of these programs will result in products that can be marketed or marketed profitably. If certain of our development-stage programs do not result in commercially viable products, our results of operations could be materially adversely affected.

The research markets served by our tools and technologies products are highly competitive, complex and dynamic. Technological advances and scientific discoveries have accelerated the pace of change in biological research, and stem cell technologies have been evolving particularly fast. We compete mainly by focusing on specialty media and antibody reagent products and cell-based assays, which are custom designed for use in stem cell-based research, where we believe our expertise, intellectual property and reputation give us competitive advantage. We believe that, in this particular market niche, our products and technologies offer customers specific advantages over those offered by our competitors. We compete by offering innovative, quality-controlled products, consistently made and designed to produce reproducible results. We continue to make investments in research and development, quality management, quality improvement, and product innovation. We cannot assure you that we will have sufficient resources to continue to make such investments. For the year ended December 31, 2011, we generated revenues from the sale of specialty cell culture products of approximately $663,000. We can give no assurances that we will be able to continue to generate such revenues in the future.

Significant Events

Therapeutic Product Development

In February 2011, the fourth and final patient in our Phase I clinical trial in Pelizaeus-Merzbacher Disease, was enrolled and transplanted with our HuCNS-SC human neural stem cells. This trial, which is being conducted at UCSF Benioff Children's Hospital, is the first to evaluate neural stem cells as a potential treatment for a myelination disorder.

In March 2011, we initiated a Phase I/II clinical trial of our HuCNS-SC human neural stem cells in chronic spinal cord injury. The trial is expected to enroll a total of 12 patients who are three to 12 months post-injury, and will include patients with both complete and incomplete injuries as classified by the American Spinal Injury Association Impairment Scale (AIS). The trial was authorized by Swissmedic and is being conducted in Switzerland at the Balgrist University Hospital, University of Zurich, a world leading medical center for spinal cord injury and rehabilitation.

In April 2011, we entered into a collaboration with a world renowned leader in Alzheimer's disease research, to study the therapeutic potential of our HuCNS-SC human neural stem cells in Alzheimer's disease. Published research has shown that mouse neural stem cells enhance memory in a mouse model of Alzheimer's disease, and the goal of this collaboration is to replicate these results using our human neural stem cells.

In June 2011, at the International Society for Stem Cell Research (ISSCR) *9th Annual Meeting*, we presented evidence of engraftment, migration and the long-term survival of our HuCNS-SC neural stem cells following transplantation into patients with a severe neurological disorder. Importantly, the results show that the cells can persist following the cessation of immunosuppression. The data supports our premise regarding the viability and utility of neural stem cell therapy as a potential treatment for a wide range of CNS disorders.

In September 2011, the first patient in our Phase I/II clinical trial in chronic spinal cord injury was enrolled and successfully transplanted with our HuCNS-SC cells. This landmark clinical trial has a unique design, in which patients with progressively decreasing severity of injury will be treated in three sequential cohorts. The first patient has an injury classified as AIS A, with complete loss of sensation and mobility from the waist down.

In November 2011, we reported that an interim review of one patient's MRIs from our Phase I PMD trial showed changes consistent with the development of new myelin in the regions in which the HuCNS-SC cells were transplanted, and that the safety data suggest the procedure and cells have been well tolerated.

In December 2011, we successfully completed the enrollment and dosing of the first cohort of patients in our Phase I/II clinical trial in chronic spinal cord injury. The first cohort of patients all have spinal cord injury classified as AIS A, the most severe level identified by the AIS. We also announced that enrollment for the remainder of the trial, which will include patients classified as AIS B and AIS C, would be open to patients living in the United States and Canada.

In January 2012, we published preclinical data demonstrating that our proprietary HuCNS-SC cells protect host photoreceptors and preserve vision in a well-established animal model of retinal disease. Moreover, the number of cone photoreceptors, which are responsible for central vision, remained constant over an extended period. The preclinical results are highly relevant to human disorders of vision loss, the most notable of which is dry age-related macular degeneration (AMD). The data was featured as the cover article in the international peer-reviewed European Journal of Neuroscience.

In January 2012, the FDA authorized the initiation of a Phase I/II clinical trial of our proprietary HuCNS-SC cells in AMD, the most common form of AMD. AMD is the leading cause of vision loss and blindness in people over 55 years of age, and approximately 30 million people worldwide are afflicted with the disease. There are no approved treatments for dry AMD.

In February 2012, the fourth and final patient in our Phase I PMD trial completed the twelve-month follow up and evaluations required by the trial protocol. Results of the trial will be reported at the European Leukodystrophy Association meeting to be held in Paris, France, March 31-April 1, 2012.

Tools and Technologies Programs

In January, 2011 we launched STEM24™ and STEM133®, two new antibody reagents that has utility for the isolation and detection of a range of different human cell types.

In March 2011, we launched nine new products and three related kits to facilitate stem cell research. This new line of purified nucleic acid and protein stem cell lysate products enable stem cell researchers to more accurately test and validate stem cell lines and associated genes and gene products. These new reagents are serum-free and are produced by purification of the DNA, RNA or protein content of the lysates of homogenous mouse stem cell lines.

Also in March 2011, we launched three new cell culture supplements for the derivation, culture and differentiation of human and mouse embryonic stem cells, induced pluripotent stem cells, and tissue-derived neural stem cells. These new supplements provide researchers with additional choices to use either a defined, serum-free, or a defined, serum-free and animal component-free version of culture supplements that are considered to be fundamental reagents for stem cell research.

In July 2011, a collaborative study was published which used commercially available SC Proven serum-free cell culture media for the reproducible and robust production of large numbers of genetically stable, self-renewing cells that retain true multi-potent biological function over extended culture periods. This work overcame a key hurdle to the use of non-immortalized cells for regenerative medicine, and demonstrated the utility of human tissue-derived neural stem cells as a scalable platform for cell-based drug discovery and drug screening applications. The paper was published in a special edition of *Neurochemistry International* dedicated to "The Potential of Stem Cells for 21st Century Neuroscience."

Financing and Other Business-related Activities

In January 2011, we sold 1,000,000 shares of our common stock to selected institutional investors at a price of $10.00 per share. We received net proceeds, after deducting offering expenses and fees, of approximately $9,400,000. The investors were also granted an option to purchase an additional 600,000 shares at $10.00 per share. The option was not exercised and expired on February 18, 2011. The shares were offered under our effective shelf registration statement previously filed with the SEC.

In July 2011, we relocated our corporate headquarters and U.S.-based research and development operations to Newark, California. Our new facilities comprise newly constructed, custom designed laboratory and office space, and house the majority of our U.S. workforce.

In July 2011, following the affirmative vote of our stockholders at our Annual Meeting, we effected a one-for-ten reverse stock split which reduced the number of shares outstanding from approximately 139 million to approximately 13.9 million.

In July 2011, we received notification from The NASDAQ Stock Market that we had regained compliance with the minimum bid price requirement needed to continue listing on the NASDAQ Global Market. The NASDAQ Listing Rules require the Company's stock to evidence a closing bid price of $1.00 per share or more for ten consecutive days.

In September 2011, the California Institute of Regenerative Medicine (CIRM) awarded us a "Disease Team Therapy Development Planning Award" totaling approximately $100,000. We were one of only four companies to be awarded a disease team planning grant, which helped us and our collaborators prepare and submit an application for a "Disease Team Therapy Development Research Award" to evaluate our proprietary HuCNS-SC cells as a potential treatment for Alzheimer's disease. Each Research Award may be up to $20 million, payable over four years, to fund preclinical and IND-enabling activities with the aim of starting human clinical trials within a four-year window.

In December 2011, we raised gross proceeds of $10 million through a public offering of 8,000,000 Units and 8,000,000 Series B warrants. The combination of Units and Series B warrants were sold at a public offering price of $1.25 per Unit. Each Series B warrant gives the holder the right to purchase one Unit at an exercise price of $1.25 per Unit and is exercisable until May 2, 2012, the 90th trading day after the date of issuance. Each Unit consists of one share of our common stock and one Series A warrant. Each Series A warrant gives the holder the right to purchase one share of our common stock at an initial exercise price of $1.40 per share. The Series A warrants are immediately exercisable upon issuance and will expire on the fifth anniversary of the closing date of the initial financing transaction in December 2011. The shares were offered under our effective shelf registration statement previously filed with the SEC.

In January 2012, we submitted two applications to the CIRM for disease team research awards, one for Alzheimer's disease and the second for spinal cord injury. Each Research Award may be up to $20 million, payable over four years, to fund preclinical and IND-enabling activities with the aim of starting human clinical trials within a four-year window. The CIRM has indicated it plans to approve and fund Research Awards in the summer of 2012.

Critical Accounting Policies and the Use of Estimates

The accompanying discussion and analysis of our financial condition and results of operations are based on our Consolidated Financial Statements and the related disclosures, which have been prepared in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP). The preparation of these Consolidated Financial Statements requires management to make estimates, assumptions, and judgments that affect the reported amounts in our Consolidated Financial Statements and accompanying notes. These estimates

form the basis for making judgments about the carrying values of assets and liabilities. We base our estimates and judgments on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, and we have established internal controls related to the preparation of these estimates. Actual results and the timing of the results could differ materially from these estimates.

Warrant Liability

We account for our warrants in accordance with U.S. GAAP which defines how freestanding contracts that are indexed to and potentially settled in a company's own stock should be measured and classified. Authoritative accounting guidance prescribes that only warrants issued under contracts that cannot be net-cash settled, and are both indexed to and settled in the Company's common stock can be classified as equity As part of both our November 2008 and November 2009 financings, we issued warrants with five year terms to purchase 1,034,483 and 400,000 shares of our common stock at $23.00 and $15.00 per share respectively. As part of our December 2011 financing, we issued Series A Warrants with five year terms to purchase 8,000,000 shares at $1.40 per share and Series B Warrants with a ninety trading days terms to purchase 8,000,000 units at $1.25 per unit. Each unit underlying the Series B warrant consists of one share of our common stock and one Series A Warrant. As the warrant agreements did not meet the specific conditions for equity classification, we are required to classify the fair value of the warrants issued as a liability, with subsequent changes in fair value to be recorded as income (loss) on change in fair value of warrant liability. The fair value of the warrants related to the 2008 and 2009 financings is determined using the Black-Scholes-Merton (Black-Scholes) option pricing model and the fair value of the warrants related to the 2011 financing is determined using the Monte Carlo simulation model. The fair value is affected by changes in inputs to those models including our stock price, expected stock price volatility, the contractual term and the risk-free interest rate. The use of the Monte Carlo simulation model requires input of additional subjective assumptions including the progress of our R&D programs and its affect on potential future financings. We will continue to classify the fair value of the warrants as a liability until the warrants are exercised, expire or are amended in a way that would no longer require these warrants to be classified as a liability. The estimated fair value of our warrant liability at December 31, 2011, was approximately $6,042,315.

Stock-Based Compensation

U.S. GAAP requires us to recognize expense related to the fair value of our stock-based compensation awards, including employee stock options and restricted stock units. Employee stock-based compensation is estimated at the date of grant based on the award's fair value using the Black-Scholes option pricing model and is recognized as expense ratably over the requisite service period. The Black-Scholes option pricing model requires the use of certain assumptions, the most significant of which are our estimates of the expected volatility of the market price of our stock, the expected term of the award, and the risk-free interest rate. Our estimate of the expected volatility is based on historical volatility. The expected term represents the period during which our stock-based awards are expected to be outstanding. In 2011, we estimated this amount based on historical experience of similar awards, giving consideration to the contractual terms of the awards, vesting requirements, and expectation of future employee behavior, including post-vesting terminations. Our estimate of the risk-free interest rate is based on U.S. Treasury debt securities with maturities close to the expected term of the option as of the date of grant. We review our valuation assumptions at each grant date and, as a result, our assumptions in future periods may change. At the end of each reporting period we estimate forfeiture rates based on our historical experience within separate groups of employees and adjust stock-based compensation expense accordingly. For the year ended December 31, 2011, employee stock-based compensation expense (stock options, restricted stock units and 401(k) Plan employer match in form of shares) was approximately $3,261,000. As of December 31, 2011, total compensation cost related to unvested stock options and restricted stock units not yet recognized was approximately $3,288,000, which is expected to be recognized as expense over a weighted-average period of 1.9 years.

Wind-down expenses

Rhode Island

In connection with our wind-down of our research and manufacturing operations in Lincoln, Rhode Island, and the relocation of our corporate headquarters and remaining research laboratories to California in October 1999, we provided a reserve for our estimate of the exit cost obligation. The reserve reflects estimates of the ongoing costs of our former research and administrative facility in Lincoln, which we hold on a lease that terminates on June 30, 2013. We are seeking to sublease, assign, sell, or otherwise divest ourselves of our interest in the facility at the earliest possible time, but we cannot determine with certainty a fixed date by which such events will occur, if at all.

In determining the facility exit cost reserve amount, we are required to consider our lease payments through the end of the lease term and estimate other relevant factors such as facility operating expenses, real estate market conditions in Rhode Island for similar facilities, occupancy rates, and sublease rental rates projected over the course of the leasehold. We re-evaluate the estimate each quarter, taking into account changes, if any, in each of the underlying factors. The process is inherently subjective because it involves projections into time — from the date of the estimate through the end of the lease — and it is not possible to determine any of the factors except the lease payments with certainty over that period.

Management forms its best estimate on a quarterly basis, after considering actual sublease activity, reports from our broker/realtor about current and predicted real estate market conditions in Rhode Island, the likelihood of new subleases in the foreseeable future for the specific facility and significant changes in the actual or projected operating expenses of the property. We discount the projected net outflow over the term of the lease to arrive at the present value, and adjust the reserve to that figure. The estimated vacancy rate for the facility is an important assumption in determining the reserve because changes in this assumption have the greatest effect on estimated sublease income. In addition, the vacancy rate estimate is the variable most subject to change, while at the same time it involves the greatest judgment and uncertainty due to the absence of highly predictive information concerning the future of the local economy and future demand for specialized laboratory and office space in that area. The average vacancy rate of the facility over the last nine years (2003 through 2011) was approximately 73%, varying from 62% to 89%. As of December 31, 2011, based on current information available to management, the vacancy rate is projected to be approximately 69% from 2012 through the end of the lease. These estimates are based on actual occupancy as of December 31, 2011, predicted lead time for acquiring new subtenants, historical vacancy rates for the area and assessments by our broker/realtor of future real estate market conditions. Due to the short time remaining on the lease period, the reserve assumes no additional tenants from 2012 to the end of the lease. A 5% increase or decrease in the operating expenses for the facility from 2012 on would have increased or decreased the reserve by approximately $48,000. Management does not wait for specific events to change its estimate, but instead uses its best efforts to anticipate them on a quarterly basis.

For the year ended December 31, 2011, we recorded actual expenses against this reserve, net of subtenant income, of approximately $1,248,000. Based on management's evaluation of the factors mentioned above, and particularly the projected vacancy rates described above, we adjusted the reserve in 2011 by recording an additional $287,000 as wind-down expenses. At December 31, 2011, the reserve was $2,135,000.

Australia

On April 1, 2009, as part of our acquisition of the SCS operations, we acquired certain operations near Melbourne, Australia. In order to reduce operating complexity and expenses, we made the decision to close our site in Australia and consolidate personnel and programs to our Cambridge, U.K. and Palo Alto, California sites. At June 30, 2009, we established a reserve of approximately $310,000 for the estimated costs to close down and exit our Australia operations. The reserve reflects the estimated cost to terminate our facility lease in Australia (which provided for an original termination date of December 31, 2010), employee termination benefits and

other liabilities associated with the wind-down and relocation of our operations in Australia. As of December 31, 2010, the facility lease agreement has been terminated and our operations in Australia have been relocated to Cambridge, U.K. and Palo Alto, California. We recorded actual expenses, net of foreign currency translation changes, of approximately $241,000 against this reserve. At December 31, 2010, we concluded that all costs related to the close down and exit of our Australia operations have been recorded against the reserve and we closed the reserve by crediting the remaining reserve balance of $69,000 to wind-down expense.

Goodwill and Other Intangible Assets (Patent and License Costs)

Goodwill of approximately $1,895,000 at December 31, 2011, relates to the acquisition of SCS operations. Goodwill and intangible assets deemed to have indefinite lives are not amortized but are subject to annual impairment tests. If the assumptions and estimates used to allocate the purchase price are not correct, or if business conditions change, purchase price adjustments or future asset impairment charges could be required. We test goodwill for impairment on an annual basis or more frequently if we believe indicators of impairment exist. Impairment evaluations involve management estimates of asset useful lives and future cash flows. Significant management judgment is required in the forecasts of future operating results that are used in the evaluations, and it is possible, even likely, that the plans and estimates used may be incorrect. If our actual results, or the plans and estimates used in future impairment analysis are lower than the original estimates used to assess the recoverability of these assets, we could incur additional impairment charges in a future period. We completed our annual impairment testing during the fourth quarter of 2011, and determined that there was no impairment of goodwill.

Other intangible assets, net were approximately $2,011,000 at December 31, 2011. Intangible assets with finite useful lives are amortized generally on a straight-line basis over the periods benefited. Intangible assets are reviewed for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Prior to fiscal year 2001, we capitalized certain patent costs, which are being amortized over the estimated life of the patent and would be expensed at the time such patents are deemed to have no continuing value. Since 2001, all patent costs are expensed as incurred. License costs are capitalized and amortized over the estimated life of the license agreement. In 2010, we wrote-off the unamortized amount of approximately $67,000 for certain license agreements that we terminated. In December 2011, in part because of management's decision to focus on our therapeutic product development programs and not to allocate time and resources to the assays technology, we determined that we could not predict the future cash flows from the intangible IPR&D asset related to the assays technology. Therefore, we determined that the intangible asset was impaired and wrote off the approximately $655,000 carrying value of the asset.

Impairment of Long-Lived Tangible Assets

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. If property, plant, and equipment are considered to be impaired, the impairment to be recognized equals the amount by which the carrying value of the assets exceeds its estimated fair market value. In 2010, we recorded a charge of approximately $63,000, to adjust the fair value of certain lab equipment we expect to dispose. No such impairment was recognized during the years 2011 and 2009.

Income Taxes

When accounting for income taxes, we recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. Income tax receivables and liabilities and deferred tax assets and liabilities are recognized based on the amounts that more likely than not will be sustained upon ultimate settlement with taxing authorities.

Developing our provision for income taxes and analyzing our tax positions requires significant judgment and knowledge of federal and state income tax laws, regulations and strategies, including the determination of deferred tax assets and liabilities and, any valuation allowances that may be required for deferred tax assets.

We assess the likelihood of realizing our deferred tax assets to determine whether an income tax valuation allowance is required. Based on such evidence that can be objectively verified, we determine whether it is more likely than not that all or a portion of the deferred tax assets will be realized. The main factors that we consider include:

- cumulative losses in recent years;
- income/losses expected in future years; and
- the applicable statute of limitations.

Tax benefits associated with uncertain tax positions are recognized in the period in which one of the following conditions is satisfied: (1) the more likely than not recognition threshold is satisfied; (2) the position is ultimately settled through negotiation or litigation; or (3) the statute of limitations for the taxing authority to examine and challenge the position has expired. Tax benefits associated with an uncertain tax position are reversed in the period in which the more likely than not recognition threshold is no longer satisfied.

We concluded that the realization of deferred tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain. Accordingly, the net deferred tax assets have been fully offset by a valuation allowance.

Results of Operations

Our results of operations have varied significantly from year to year and quarter to quarter and may vary significantly in the future due to the occurrence of material recurring and nonrecurring events, including without limitation the receipt and payment of recurring and nonrecurring licensing payments, the initiation or termination of research collaborations, the on-going expenses to lease and maintain our Rhode Island facilities, other than temporary impairment of our financial assets, changes in estimated fair value of our warrant liability, and increasing operating costs.

Revenue

Revenue totaled approximately $1,221,000 in 2011, $1,427,000 in 2010, and $993,000 in 2009.

	2011	2010	2009	Change in 2011 Versus 2010 $	Change in 2011 Versus 2010 %	Change in 2010 Versus 2009 $	Change in 2010 Versus 2009 %
Revenue							
Licensing agreements and grants	$ 557,880	$ 927,772	$ 608,011	$ (369,892)	(40)%	$ 319,761	53%
Product Sales	662,790	499,200	384,859	163,590	33%	114,341	30%
Total Revenue	1,220,670	1,426,972	992,870	(206,302)	(14)%	434,102	44%
Cost of Sales	214,811	168,424	261,443	46,387	(27)%	(93,019)	(36)%
Gross Profit	$ 1,005,859	$ 1,258,548	$ 731,427	$ (252,689)	(20)%	$ 527,121	72%

Total revenue in 2011 was approximately $1,221,000, which was 14% lower than total revenue in 2010. In 2011, revenue from product sales increased 33%, or approximately $164,000, compared to 2010. This increase was primarily attributable to both increased unit volumes and new product launches in our SC Proven line of media and reagents. In 2011, approximately 70% of our product sales were in Europe, 13% were in the United States, and 17% were in Asia. Licensing and grant revenue declined approximately $370,000, or 40%, in 2011 compared to 2010. Grant revenue decreased from approximately $315,000 in 2010 to approximately $172,000 in 2011 as several projects funded by grants were completed or terminated in 2010. Licensing revenue decreased to approximately $414,000 in 2011 from approximately $613,000 in 2010. The higher licensing revenue in 2010

was primarily due to receipt of a milestone payment of approximately $438,000, net of royalty due to NeuroSpheres, Ltd. (NeuroSpheres), an Alberta corporation from which we have licensed some of our patent rights (See Note 2, "Financial Instruments" in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information).

Total revenue in 2010 was approximately $1,427,000, which was 44% higher than total revenue in 2009. In 2010, revenue from product sales were 30% higher in 2010 compared to 2009. Revenue from product sales were approximately $499,000 in 2010, compared to approximately $385,000 in 2009. The increase in 2010 was primarily attributable to the consolidation of four quarters of product sales from our acquired operations in the U.K. compared to three quarters in 2009. In 2010, approximately 61% of our product sales were in Europe, 12% were in the United States, and 27% were in Asia. Licensing and grant revenue for 2010 were 53%, or approximately $320,000, higher compared to 2009. The increase was primarily attributable to a milestone payment of approximately $438,000, net of royalty due to NeuroSpheres (See Note 2, "Financial Instruments" in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information).

Operating Expenses

Operating expense totaled approximately $29,082,000 in 2011, $30,618,000 in 2010, and $30,110,000 in 2009.

				Change in 2011 Versus 2010		Change in 2010 Versus 2009	
	2011	2010	2009	$	%	$	$
Operating Expenses							
Research & development	$19,937,764	$ 21,019,301	$19,929,592	$ (1,081,537)	(5)%	$1,089,709	5%
Selling, general & administrative	8,202,375	9,376,774	9,530,421	(1,174,399)	(12)%	(153,647)	(2)%
Wind-down expenses	287,122	221,991	649,608	65,131	29%	(427,617)	(66)%
Impairment of intangible asset	654,961	—	—	654,961	*	—	
Total operating expenses	$ 29,082,222	$30,618,066	$ 30,109,621	$ (1,535,844)	(5)%	$ 508,445	2%

* Calculation is not meaningful.

Research and Development Expenses

Our R&D expenses consist primarily of salaries and related personnel expenses, costs associated with clinical trials and regulatory submissions; costs associated with preclinical activities such as toxicology studies; costs associated with cell processing and process development; certain patent-related costs such as licensing; facilities-related costs such as depreciation; lab equipment; and supplies. Clinical trial expenses include payments to vendors such as clinical research organizations, contract manufacturers, clinical trial sites, laboratories for testing clinical samples and consultants. Cumulative R&D costs incurred since we refocused our activities on developing cell-based therapeutics (fiscal years 2000 through 2011) were approximately $152 million. Over this period, the majority of these cumulative costs were related to: (i) characterization of our proprietary HuCNS-SC cell, (ii) expenditures for toxicology and other preclinical studies, preparation and submission of applications to regulatory agencies to conduct clinical trials and obtaining regulatory clearance to initiate such trials, all with respect to our HuCNS-SC cells, (iii) preclinical studies and development of our human liver engrafting cells, (iv) costs associated with cell processing and process development, and (v) costs associated with our clinical studies.

We use and manage our R&D resources, including our employees and facilities, across various projects rather than on a project-by-project basis for the following reasons. The allocations of time and resources change as the needs and priorities of individual projects and programs change, and many of our researchers are assigned to more than one project at any given time. Furthermore, we are exploring multiple possible uses for each of our proprietary cell types, so much of our R&D effort is complementary to and supportive of each of these projects. Lastly, much of our R&D effort is focused on manufacturing processes, which can result in process improvements useful across cell types. We also use external service providers to assist in the conduct of our clinical trials, to manufacture certain of our product candidates and to provide various other R&D related products and services. Many of these costs and expenses are complementary to and supportive of each of our programs. Because we do not have a development collaborator for any of our product programs, we are currently responsible for all costs incurred with respect to our product candidates.

R&D expense totaled approximately $19,938,000 in 2011, as compared to $21,019,000 in 2010 and $19,930,000 in 2009. At December 31, 2011, we had 40 full-time employees working in research and development and laboratory support services as compared to 62 at December 31, 2010 and 59 at December 31, 2009.

2011 versus 2010. R&D expenses decreased by approximately $1,082,000, or 5%, in 2011 compared to 2010. This decrease was primarily attributable to (i) a decrease of approximately $1,949,000 in personnel expenses primarily due to the reduction in force effected in May 2011, (ii) a decrease of approximately $694,000 in operating expenses for our U.K. operations as cost reduction efforts initiated in 2010 took full effect, (iii) a decrease of approximately $1,134,000 in expenses related to cell manufacturing, and (iv) a decrease of approximately $518,000 in other operating expenses, primarily other external services and supplies. These decreases in expenses were offset by the following increases: (i) clinical study expenses increased approximately $1,006,000 as we conducted our Phase I/II clinical trial in chronic spinal cord injury, and our Phase I clinical trial in PMD, (ii) external services expenses increased approximately $1,319,000 primarily related to preclinical studies and IND-enabling activities related to retinal disorders, (iii) approximately $216,000 in severance payments related to the reduction in force effected in May 2011, and (iv) approximately $672,000 in facilities expense primarily due to recognizing operating lease expense on a straight-line basis (See Note 12 “Commitment and Contingencies,” in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information.

2010 versus 2009. R&D expenses increased approximately $1,090,000, or 5%, in 2010 compared to 2009. This increase was primarily attributable to (i) an increase of approximately $328,000 in R&D expenses related to consolidation of four quarters of our acquired operations in 2010 compared to three quarters in 2009, (ii) an increase of approximately $496,000 in expenses related to our clinical trials, (iii) an increase in personnel expenses of approximately $255,000 due to an increase in head count, and (iv) a net increase of approximately $11,000 in other operating expenses.

Selling, General and Administrative Expenses

Selling, general and administrative (SG&A) expenses are primarily comprised of salaries, benefits and other staff-related costs associated with sales and marketing, finance, legal, human resources, information technology, and other administrative personnel, facilities and overhead costs, external legal and other external general and administrative services.

SG&A expenses totaled approximately $8,202,000 in 2011, compared with $9,377,000 in 2010 and $9,530,000 in 2009.

2011 versus 2010. SG&A expenses decreased by approximately $1,175,000, or 12%, in 2011 compared to 2010. This decrease was primarily attributable to (i) a decrease of approximately $649,000 in personnel expenses primarily due to the reduction in force effected in May 2011, (ii) a decrease of approximately $582,000 in

operating expenses for our U.K. operations as cost reduction efforts initiated in 2010 took full effect, and (iii) a net decrease of approximately $68,000 in other operating expenses. These decreased expenses were partially offset by a net increase of approximately $124,000 in external services expenses, primarily attributable to legal and patent expenses.

2010 versus 2009. SG&A expenses decreased by approximately $154,000, or 2%, in 2010 compared to 2009. This decrease was primarily attributable to (i) a decrease of approximately $54,000 in SG&A expenses at our U.K. operations primarily attributable to a decrease in consulting expenses, (ii) a decrease of approximately $57,000 in personnel expenses primarily attributable to a decrease in stock-based compensation expense, and (iii) a net decrease of approximately $43,000 in other operating expenses.

Wind-down Expenses

Rhode Island

In 1999, in connection with exiting our former research facility in Rhode Island, we created a reserve for the estimated lease payments and operating expenses related to it. The reserve has been re-evaluated and adjusted based on assumptions relevant to real estate market conditions and the estimated time until we could either fully sublease, assign or sell our remaining interests in the property. The reserve inclusive of deferred rent was approximately $2,135,000 at December 31, 2011 and $3,300,000 at December 31, 2010. Payments net of subtenant income were recorded against this reserve of $1,248,000 in 2011, $1,219,000 in 2010, and $1,216,000 in 2009. We re-evaluated the estimate and adjusted the reserve by recording, in aggregate, additional wind-down expenses of $287,000 in 2011, $291,000 in 2010, and $340,000 in 2009. Expenses for this facility will fluctuate based on changes in tenant occupancy rates and other operating expenses related to the lease. Even though it is our intent to sublease, assign, sell, or otherwise divest ourselves of our interests in the facility at the earliest possible time, we cannot determine with certainty a fixed date by which such events will occur. In light of this uncertainty, based on estimates, we will periodically re-evaluate and adjust the reserve, as necessary. See Note 11 “Wind-down and exit costs,” in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information.

Australia

On April 1, 2009, as part of our acquisition of the SCS operations, we acquired certain operations near Melbourne, Australia. In order to reduce operating complexity and expenses, we made the decision to close our site in Australia and consolidate personnel and programs to our Cambridge, U.K. and Palo Alto, California sites. At June 30, 2009, we established a reserve of approximately $310,000 for the estimated costs to close down and exit our Australia operations. The reserve reflects the estimated cost to terminate our facility lease in Australia (which provided for an original termination date of December 31, 2010), employee termination benefits and other liabilities associated with the wind-down and relocation of our operations in Australia. As of December 31, 2010, the facility lease agreement has been terminated and our operations in Australia have been relocated to Cambridge, U.K. and Palo Alto, California. We recorded actual expenses, net of foreign currency translation changes of approximately $241,000 against this reserve. At December 31, 2010, we concluded that all costs related to the close down and exit of our Australia operations have been recorded against the reserve and we closed the reserve by crediting the remaining reserve balance of $69,000 to wind-down expense.

Other Income (Expense)

Other income totaled approximately $6,748,000 in 2011, compared with other income of approximately $4,116,000 in 2010 and other expense of $2,352,000 in 2009.

	2011	2010	2009	Change in 2011 Versus 2010 $	Change in 2011 Versus 2010 %	Change in 2010 Versus 2009 $	Change in 2010 Versus 2009 %
Other income (expense):							
Realized gain on sale of marketable securities	$ 83,750	$ —	$ 406,910	$ 83,750	*%	$ (406,910)	(100)%
Change in fair value of warrant liability	6,612,092	3,005,040	1,898,603	3,607,052	120%	1,106,437	58%
Interest income	13,942	26,728	67,345	(12,786)	(48)%	(40,617)	(60)%
Interest expense	(71,363)	(93,382)	(110,807)	22,019	(24)%	17,425	(16)%
Qualifying Therapeutic Disc. Proj. Grant	—	977,917	—	(977,917)	(100)%	977,917	*%
Other income (expense), net	109,404	199,664	89,732	(90,260)	(45)%	109,932	123%
Total other income (expense), net	$ 6,747,825	$ 4,115,967	$ 2,351,783	$ 2,631,858	64%	$ 1,764,184	75%

* Calculation is not meaningful.

Gain on Sale of Marketable Equity Securities

The gain on sale of marketable equity securities of approximately $84,000 in 2011 and $407,000 in 2009 was primarily attributable to sales of ReNeuron shares. See Note 2 “Financial Instruments,” in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information on this transaction.

Change in Fair Value of Warrant Liability

We record changes in fair value of outstanding warrants as income or loss in our Consolidated Statements of Operations. We have warrants outstanding which were issued as part of several transactions since 2008 and have classified all these warrants as a liability. The fair value of the outstanding warrants is determined using various option pricing models, such as the Black-Scholes-Merton (Black-Scholes) option pricing model and the Monte Carlo simulation model, and is affected by changes in inputs to the various models, including our stock price, expected stock price volatility, the contractual term and the risk-free interest rate. The use of the Monte Carlo simulation model requires input of additional subjective assumptions including the progress of our R&D programs and its affect on potential future financings. The fair value of the warrant liability will be revalued at the end of each reporting period, with the change in fair value of the warrant liability recorded as a gain or loss in our Consolidated Statements of Operations. See Note 13 “Warrant Liability,” in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information on this transaction.

Interest Income

Interest income totaled approximately $14,000 in 2011, $27,000 in 2010, and $67,000 in 2009. The decrease in interest income from 2009 to 2011 was primarily attributable to lower average yields on cash, cash equivalents, and marketable securities and also due to lower average cash balances.

Interest Expense

Interest expense was approximately $71,000 in 2011, $93,000 in 2010, and $111,000 in 2009. The decrease in interest expense from 2009 to 2011was primarily attributable to lower outstanding debt and capital lease balances.

Qualifying Therapeutic Discovery Project Grants

In October 2010, we were awarded four cash grants totaling approximately $978,000, in aggregate, for work related to our CNS and Liver Programs. These grants were certified under the federal government's Qualifying Therapeutic Discovery Projects program, which was created by Congress as part of the Patient Protection and Affordable Care Act of 2010. See Note 17 "The Qualifying Therapeutic Discovery Project Grant," in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information on these grants.

Other Income (Expense), net

Other income, net in 2011 include the receipt of approximately $150,000 as a break-up fee paid to us upon the expiration of an exclusivity period granted to a potential licensee. Other income was partially offset by other expenses, primarily state franchise taxes.

Other income, net in 2010 includes approximately $227,000 from final settlement of various claims related to our SCS acquisition. On April 1, 2009, we acquired the operations of Stem Cell Sciences Plc (SCS, which subsequently changed its name to Asset Realization Company Ltd.). As consideration, we issued 265,000 shares of our common stock with a closing price of $16.70 per share and waived certain commitments of SCS to repay approximately $709,000 in principal and accrued interest owed to us. Pursuant to the acquisition agreement, 20% of the 265,000 shares were placed into an escrow for a twelve month period to satisfy any indemnification obligations owed to us by SCS. On August 19, 2010, we entered into a settlement agreement with SCS in which the parties agreed to the release of half the escrowed shares to SCS and half to us in full satisfaction of our claims for indemnification, and both parties waived all other claims, known and unknown, against the other. The 26,500 shares returned to us are being treated as retired and no longer outstanding. We have recorded approximately $227,000 as other income, which was the value of these shares based on the closing price of $9.10 per share on August 19, 2010, and net of amounts already accrued for potential claims against the escrowed shares. Other income also includes approximately $89,000 of R&D tax credits due to our wholly-owned subsidiary Stem Cell Sciences (U.K.) Ltd. The above income was offset by other expenses, net of approximately $116,000, primarily related to write-down of assets and state franchise taxes.

Other income, net in 2009 was approximately $90,000. This was primarily related to R&D tax credits of approximately $152,000 due to our wholly-owned subsidiary Stem Cell Sciences (Australia) Pty Ltd recorded as other income. Other income for 2009 was partially offset by approximately $59,000 in foreign exchange transaction losses and approximately $3,000 in state franchise taxes.

Liquidity and Capital Resources

Since our inception, we have financed our operations through the sale of common and preferred stock, the issuance of long-term debt and capitalized lease obligations, revenue from research grants, license fees, product sales and interest income.

	2011	2010	2009	Change in 2011 Versus 2010 $	Change in 2011 Versus 2010 %	Change in 2010 Versus 2009 $	Change in 2010 Versus 2009 %
At December 31:							
Cash and highly liquid investments(1)	$16,591,852	$ 19,707,821	$ 38,617,977	$(3,115,969)	(16)%	$(18,910,156)	(49)%
Year ended December 31:							
Net cash used in operating activities	$ (22,058,283)	$(24,519,913)	$(24,682,669)	$ 2,461,630	(10)%	$ 162,756	(1)%
Net cash provided by (used in) investing activities	$ (3,422,012)	$ (923,964)	$ 3,731,991	$ (2,498,048)	270%	$ (4,655,955)	(125)%
Net cash provided by financing activities	$ 19,129,484	$ 6,586,380	$ 29,786,280	$ 12,543,104	190%	$ (23,199,900)	(78)%

(1) Cash and highly liquid investments include unrestricted cash, cash equivalents, and short-term and long-term marketable debt securities. Marketable equity securities, which are comprised of approximately 1,922,000 ordinary shares of ReNeuron with a market value in aggregate of approximately $191,000 and $197,000 as of December 31, 2010 and 2009, respectively, are excluded from the amounts above. As of June 30, 2011, we no longer hold any shares of ReNeuron. See Note 2, “Financial Instruments,” in the Notes to the Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information.

Total cash and highly liquid investments were approximately $16,592,000 at December 31, 2011, compared with approximately $19,708,000 at December 31, 2010, and $38,618,000 at December 31, 2009. The decrease of cash and highly liquid investments from 2009 to 2011 was primarily attributable to higher proceeds from the issuance of common stock in 2009 as compared to 2010 and 2011. In 2009, we received approximately $29,603,000 as net proceeds from the issuance of common stock as compared to approximately $7,279,000 in 2010 and $19,775,000 in 2011.

In January 2011, we raised gross proceeds of $10,000,000 through the sale of 1,000,000 shares of our common stock to selected institutional investors at a price of $10.00 per share. We received net proceeds, after deducting offering expenses and fees, of approximately $9,400,000. The investors were also granted an option to purchase an additional 600,000 shares at $10.00 per share. The option was not exercised and expired on February 18, 2011. The shares were offered under our effective shelf registration statement previously filed with the SEC.

In December 2011, we raised gross proceeds of $10,000,000 through a public offering of 8,000,000 Units and 8,000,000 Series B warrants. The combination of Units and Series B warrants were sold at a public offering price of $1.25 per Unit. Each Series B warrant gives the holder the right to purchase one Unit at an exercise price of $1.25 per Unit and is exercisable until May 2, 2012, the 90th trading day after the date of issuance. Each Unit consists of one share of our common stock and one Series A warrant. Each Series A warrant gives the holder the right to purchase one share of our common stock at an initial exercise price of $1.40 per share. The Series A warrants are immediately exercisable upon issuance and will expire on the fifth anniversary of the closing date of the initial financing transaction in December 2011. The shares were offered under our effective shelf registration statement previously filed with the SEC.

Net Cash Used in Operating Activities

Cash used in operating activities consists of net loss for the year, adjusted for non-cash expenses such as depreciation and amortization and stock-based compensation and adjustments for changes in various components of working capital. Cash used in operating activities was approximately $22,058,000 in 2011, $24,520,000 in 2010, and $24,683,000 in 2009. The decrease in cash used in operating activities in 2011 compared to 2010 was primarily attributable to decreased operating expenses due to the reduction in work force effected in May 2011 and the consolidation of our activities at our UK operations. Cash used in operating activities in 2010 compared to 2009 was relatively flat.

Net Cash Provided by Investing Activities

Net cash used in investing activities in 2011 as compared to 2010 increased by $2,498,000, or 270%. The increase was primarily attributable to net purchases of marketable debt securities in 2011. No purchases of marketable debt securities were made in 2010. Our investment portfolio comprised primarily of U.S. Treasury debt securities, which are classified as cash equivalents and commercial paper and corporate debt securities, which are classified as short-term marketable securities, with no positions held in-long term marketable debt securities. Net cash provided by investing activities in 2010 as compared to 2009 decreased by $4,655,955, or 125%. In 2009, we received net proceeds of approximately $4,018,000 as marketable debt securities we held reached maturity, and approximately $510,000 from the sale of 2,900,000 ordinary shares of ReNeuron (marketable equity securities).

Net Cash Provided by Financing Activities

Net cash provided by financing activities in 2011 increased by approximately $12,543,000 or 190% compared to the same period in 2010, primarily due to higher net proceeds from sales of common stock in 2011. Net cash provided by financing activities in 2010 decreased by approximately $23,200,000, or 78%, compared to 2009, primarily due to lower net proceeds from sales of common stock.

Listed below are key financing transactions entered into by us in 2011, 2010 and 2009:

- In December 2011, we raised gross proceeds of $10 million through a public offering of 8,000,000 Units and 8,000,000 Series B warrants. The combination of Units and Series B warrants were sold at a public offering price of $1.25 per Unit. Each Series B warrant gives the holder the right to purchase one Unit at an exercise price of $1.25 per Unit and is exercisable until May 2, 2012, the 90th trading day after the date of issuance. Each Unit consists of one share of our common stock and one Series A warrant. Each Series A warrant gives the holder the right to purchase one share of our common stock at an initial exercise price of $1.40 per share. The Series A warrants are immediately exercisable upon issuance and will expire on the fifth anniversary of the closing date of the initial financing transaction in December 2011. The shares were offered under our effective shelf registration statement previously filed with, and declared effective by, the SEC.
- In January 2011, we sold 1,000,000 shares of our common stock to selected institutional investors at a price of $10.00 per share. We received net proceeds, after deducting offering expenses and fees, of approximately $9,400,000. The investors were also granted an option to purchase an additional 6,000,000 shares at $10.00 per share. The option was not exercised and expired on February 18, 2011. The shares were offered under a shelf registration previously filed with, and declared effective by, the SEC.
- In 2011, we sold a total of 525,116 shares of our common stock under a sales agreement entered into in June 2009 (“2009 sales agreement”) at an average price per share of $2.47 for gross proceeds of approximately $1,297,000. Under the terms of the 2009 sales agreement, we may sell up to $30,000,000 of our common stock, from time to time through a sales agent. The sales agent is paid compensation equal to 3.0% of gross proceeds pursuant to the terms of the agreement. The shares were offered under a shelf registration previously filed with, and declared effective by, the SEC.

- In June 2010, we sold 700,000 shares of our common stock to an institutional investor, at a price of $8.65 per share. We received net proceeds, after deducting offering expenses and fees, of approximately $5,700,000. No warrants were issued in this transaction. The shares were sold under our effective shelf registration statement previously filed with the SEC. As part of the purchase agreement, the institutional investor agreed to purchase an additional 500,000 shares of common stock approximately 12 weeks after the initial sale, at our option and at a purchase price to be calculated using the then-current trading price. We decided not to sell these additional shares and on September 20, 2010, we terminated the purchase agreement.
- In 2010, we sold a total of 147,520 shares of our common stock under the 2009 sales agreement at an average price per share of $11.60 for gross proceeds of approximately $1,705,000. The sales agent is paid compensation equal to 3.0% of the gross proceeds pursuant to the terms of the agreement. The shares were offered under a shelf registration previously filed with, and declared effective by, the SEC.
- In November 2009, we sold 1,000,000 units to institutional investors at a price of $12.50 per unit, for gross proceeds of $12,500,000. The units, each of which consisted of one share of common stock and a warrant to purchase 0.4 shares of common stock at an exercise price of $15.00 per share, were offered under a shelf registration previously filed with, and declared effective by, the SEC. We received total proceeds net of offering expenses and placement agency fees of approximately $11,985,000.
- In 2009, we sold a total of 183,000 shares of our common stock under the 2009 sales agreement at an average price per share of $18.00 for gross proceeds of approximately $3,291,000. The shares were offered under a shelf registration previously filed with, and declared effective by, the SEC.

We have incurred significant operating losses and negative cash flows since inception. We have not achieved profitability and may not be able to realize sufficient revenue to achieve or sustain profitability in the future. We do not expect to be profitable in the next several years, but rather expect to incur additional operating losses. We have limited liquidity and capital resources and must obtain significant additional capital resources in order to sustain our product development efforts, for acquisition of technologies and intellectual property rights, for preclinical and clinical testing of our anticipated products, pursuit of regulatory approvals, acquisition of capital equipment, laboratory and office facilities, establishment of production capabilities, for selling, general and administrative expenses and other working capital requirements. We rely on cash balances and proceeds from equity and debt offerings, proceeds from the transfer or sale of our intellectual property rights, equipment, facilities or investments, and government grants and funding from collaborative arrangements, if obtainable, to fund our operations.

We intend to pursue opportunities to obtain additional financing in the future through equity and debt financings, grants and collaborative research arrangements. In November 2010, we filed with the SEC, and the SEC declared effective, a universal shelf registration statement which permits us to issue up to $100 million worth of registered debt and equity securities. As of March 2, 2012, we had approximately $46 million under this universal shelf registration statement available for issuing debt or equity securities. Under this effective shelf registration, we have the flexibility to issue registered securities, from time to time, in one or more separate offerings or other transactions with the size, price and terms to be determined at the time of issuance. Registered securities issued using this shelf may be used to raise additional capital to fund our working capital and other corporate needs, for future acquisitions of assets, programs or businesses, and for other corporate purposes.

The source, timing and availability of any future financing will depend principally upon market conditions, interest rates and, more specifically, on our progress in our exploratory, preclinical and future clinical development programs. Funding may not be available when needed — at all, or on terms acceptable to us. Lack of necessary funds may require us, among other things, to delay, scale back or eliminate some or all of our research and product development programs, planned clinical trials, and/or our capital expenditures or to license our potential products or technologies to third parties. In addition, the decline in economic activity, together with the deterioration of the credit and capital markets, could have an adverse impact on potential sources of future financing.

Commitments

See Note 12, "Commitments and Contingencies" in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information.

Off-Balance Sheet Arrangements

We have certain contractual arrangements that create potential risk for us and are not recognized in our Consolidated Balance Sheets. Discussed below are those off-balance sheet arrangements that have, or are reasonably likely to have, a material current or future effect on our financial condition, changes in financial condition, revenue or expenses, results of operations, liquidity, capital expenditures, or capital resources.

Operating Leases

We lease various real properties under operating leases that generally require us to pay taxes, insurance, maintenance, and minimum lease payments. Some of our leases have options to renew.

Operating Leases — California

In December 2010, we entered into a commercial lease agreement with BMR-Gateway Boulevard LLC ("BMR"), as landlord, for approximately 43,000 square feet of office and research space at BMR's Pacific Research Center in Newark, California. The initial term of the lease is approximately eleven and one-half years, and we relocated our corporate headquarters and core research activities from a facility located in Palo Alto, California, to this facility in July 2011. The lease for the Palo Alto facility expired on August 31, 2011, and a letter of credit for approximately $389,000, which served as a security deposit was transferred from our restricted cash account to our cash and cash equivalents account. We will pay approximately $17,989,000 in aggregate as rent over the term of the lease to BMR, which we recognize as operating lease expense on a straight-line basis. Deferred rent was approximately $1,301,000 as of December 31, 2011. As part of the lease, BMR has agreed to provide various financial allowances so that we can build initial and future laboratories, offices and other improvements, subject to customary terms and conditions relating to landlord-funded tenant improvements. As part of the lease, we have, until January 2013, an option to lease up to an additional 30,000 square feet in the building.

In September 2010, we entered into a two-year sublease agreement with Caliper Life Sciences, Inc., for approximately 13,200 square feet in a facility located in Mountain View, California. We will pay approximately $695,000 in aggregate as rent over the term of the lease. The lease contains escalating rent payments, which we recognize as operating lease expense on a straight-line basis. Deferred rent was approximately $2,600 as of December 31, 2011.

Operating Leases — Rhode Island

We continue to have outstanding obligations in regard to our former facilities in Lincoln, Rhode Island. In 1997, we had entered into a fifteen-year lease for a scientific and administrative facility (the SAF) in a sale and leaseback arrangement. The lease includes escalating rent payments. For the year 2012, we expect to pay approximately $1,172,000 in operating lease payments and estimated operating expenses of approximately $690,000, before receipt of sub-tenant income. For the year 2012, we expect to receive, in aggregate, approximately $435,000 in sub-tenant rent and operating expenses. As a result of the above transactions, our estimated cash outlay net of sub-tenant rent for the SAF will be approximately $1,427,000 for 2012.

Operating Leases — United Kingdom

In January 2011, we amended the existing lease agreements of our wholly-owned subsidiary, Stem Cell Sciences (U.K.) Ltd, effectively reducing our leased space from approximately 5,000 square feet to approximately 1,900 square feet of office and lab space. We expect to pay approximately 40,000 GBP as rental payments for 2012. StemCells, Inc. is the guarantor of Stem Cell Sciences (U.K.) Ltd's obligations under the existing lease.

With the exception of the operating leases discussed above, we have not entered into any off balance sheet financial arrangements and have not established any special purpose entities. We have not guaranteed any debts or commitments of other entities or entered into any options on non-financial assets.

See Note 12, "Commitments and Contingencies," in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information.

Indemnification Agreement

Effective 2008, as part of an indemnification agreement with NeuroSpheres, we are entitled to offset all litigation costs incurred in this patent infringement suit, against amounts that would otherwise be owed to NeuroSpheres under our exclusive license agreements with NeuroSpheres, such as annual maintenance fees, milestones and royalty payments. Under the terms of our license agreements, we are required to make annual payments of $50,000 to NeuroSpheres, and we expect to make these annual payments through the remaining life of the patent which, at December 31, 2010, was approximately 14 years. We have therefore capitalized $700,000 (14 years at $50,000 per year) to offset litigation costs. The amount capitalized is not dependent on the achievement of any milestones or related to any other contingent payments which may become due under the arrangement. We will reduce this asset by $50,000 per year in lieu of the cash payments due to NeuroSpheres. As the $50,000 annual payments are fully creditable against royalties due to Neurospheres, we have classified the $700,000 as prepaid royalties under "Other assets, non-current" on our accompanying Consolidated Balance Sheets. We have concluded that the estimated balance of $650,000, as of December 31, 2011, is a fair estimate and realizable against future milestone and royalty payments to NeuroSpheres, and that litigation costs incurred above this amount will be expensed as incurred. Management will reevaluate this estimate on a quarterly basis based on actual costs and other relevant factors.

Contractual Obligations

In the table below, we set forth our legally binding and enforceable contractual cash obligations at December 31, 2011:

	Total Obligations at 12/31/11	Payable in 2012	Payable in 2013	Payable in 2014	Payable in 2015	Payable in 2016	Payable in 2017 and Beyond
Operating lease payments(1)	$19,858,445	$2,906,916	$2,221,389	$1,540,429	$1,591,891	$1,638,207	$9,959,613
Capital lease (equipment)	18,329	18,329	—	—	—	—	—
Bonds Payable (principal & interest)(2)	615,110	240,666	237,592	136,852	—	—	—
Total contractual cash obligations	$20,491,884	$3,165,911	$2,458,981	$1,677,281	$1,591,891	$1,638,207	$9,959,613

(1) Operating lease payments exclude sub-lease income. See "Off-Balance Sheet Arrangements — Operating Leases" above for further information.

(2) See Note 12, "Commitments and Contingencies" in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information.

Under license agreements with NeuroSpheres, Ltd., we obtained an exclusive patent license covering all uses of certain neural stem cell technology. We made up-front payments to NeuroSpheres of 6,500 shares of our common stock and $50,000, and will make additional cash payments as stated milestones are achieved. Effective

in 2004, we were obligated to pay annual payments of $50,000, creditable against certain royalties. Effective in 2008, as part of the indemnification agreement with NeuroSpheres described above, we offset the annual $50,000 obligation against litigation costs incurred under that agreement.

We periodically enter into licensing agreements with third parties to obtain exclusive or non-exclusive licenses for certain technologies. The terms of certain of these agreements require us to pay future milestone payments based upon achievement of certain developmental, regulatory or commercial milestones. We do not anticipate making any milestone payments under any of our licensing agreements for 2011. Milestone payments beyond fiscal year 2011 cannot be predicted or estimated, due to the uncertainty of achieving the required developmental, regulatory or commercial milestones.

We do not have any material unconditional purchase obligations or commercial commitments related to capital expenditures, clinical development, clinical manufacturing, or other external services contracts at December 31, 2011.

Recent Accounting Pronouncements

In May 2011, the FASB issued additional authoritative guidance relating to fair value measurement and disclosure requirements. For fair value measurements categorized in Level 3 of the fair value hierarchy, the new guidance requires (1) disclosure of quantitative information about unobservable inputs; (2) a description of the valuation processes used by the entity; and (3) a qualitative discussion about the sensitivity of the fair value measurement to changes in unobservable inputs and the interrelationships between those unobservable inputs, if any. Entities must report the level in the fair value hierarchy of assets and liabilities that are not recorded at fair value in the statement of financial position but for which fair value is disclosed. The new requirements clarify that the concepts of highest and best use and valuation premise only apply to measuring the fair value of nonfinancial assets. The new requirements also specify that in the absence of a Level 1 input, a reporting entity should incorporate a premium or a discount in a fair value measurement if a market participant would take into account such an input in pricing and asset or liability. Additionally, the new guidance introduces an option to measure certain financial assets and financial liabilities with offsetting positions on a net basis if certain criteria are met. For public entities, these new requirements become effective for interim and annual periods beginning after December 15, 2011. These requirements are applicable to our fiscal year beginning January 1, 2012. We do not expect this new guidance to have a material effect on our consolidated financial statements.

In June 2011, the FASB issued new accounting guidance which eliminates the current option to present other comprehensive income and its components in the statement of changes in equity. However, under the new guidance, comprehensive income and its components must still be presented under one of two new alternatives. Under the first alternative, the components of other comprehensive income and the components of net income may be presented in one continuous statement referred to as the statement of comprehensive income. Under the second alternative, a statement of other comprehensive income would immediately follow the statement of net income and must be shown with equal prominence as the other primary financial statements. Under either alternative, an entity is required to present each component of net income along with total net income, each component of other comprehensive income along with a total for other comprehensive income, and a total amount for comprehensive income. For public entities, these new requirements will become effective for fiscal years, and interim periods within those years, beginning after December 15, 2011 and should be applied retrospectively to all prior periods presented. They are applicable to our fiscal year beginning January 1, 2012. We do not expect this new guidance to have a material effect on our consolidated financial statements.

In September 2011, the FASB issued an update to previous guidance on testing goodwill for impairment. The amendments in this update simplifies how entities, both public and nonpublic, test goodwill for impairment. Under the amendments, an entity has the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If, after assessing the totality of events or circumstances, an entity determines it is not more likely than not that the fair value of a reporting unit is less than its carrying amount,

then performing the two-step impairment test is unnecessary. However, if an entity concludes otherwise, then it is required to perform the first step of the two-step impairment test by calculating the fair value of the reporting unit and comparing the fair value with the carrying amount of the reporting unit. If the carrying amount of a reporting unit exceeds its fair value, then the entity is required to perform the second step of the goodwill impairment test to measure the amount of the impairment loss, if any. An entity has the option to bypass the qualitative assessment for any reporting unit in any period and proceed directly to performing the first step of the two-step goodwill impairment test. An entity may resume performing the qualitative assessment in any subsequent period. The amendments are effective for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011. We do not expect this new guidance to have a material effect on our consolidated financial statements.

Item 7A. *QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK*

Interest Rate and Credit Risks

Our interest-bearing assets, or interest-bearing portfolio, consist of cash, cash equivalents, and marketable debt securities. The balance of our interest-bearing portfolio was approximately $16,592,000, or 66%, of total assets at December 31, 2011 and $20,097,000, or 66%, of total assets at December 31, 2010. Interest income earned on these assets was approximately $14,000 in 2011 and $27,000 in 2010. Our interest income is sensitive to changes in the general level of interest rates, primarily U.S. interest rates. At December 31, 2011, our debt securities were primarily composed of money market accounts comprised of U.S. Treasury debt securities and repurchase agreements that are backed by U.S. Treasury debt securities. Generally, corporate obligations must have senior credit ratings of A2/A or the equivalent. See Note 1, “Summary of Significant Accounting Policies — Financial Instruments” and Note 2 “Financial Instruments” section in the Notes to Consolidated Financial Statements in Part II, Item 8 of this Form 10-K for further information.

Our long-term debt is comprised of industrial revenue bonds issued by the State of Rhode Island to finance the construction of our pilot manufacturing facility in Rhode Island. See Note 12, “Commitments and Contingencies,” section in the Notes to Consolidated Financial Statements in Part II, Item 8 of this Form 10-K for further information.

Equity Security and Foreign Exchange Risks

In July 2005, we entered into an agreement with ReNeuron under which we granted ReNeuron a license that allows ReNeuron to exploit its “c-mycER” conditionally immortalized adult human neural stem cell technology for therapy and other purposes. We received shares of ReNeuron common stock, as well as a cross-license to the exclusive use of ReNeuron’s technology for certain diseases and conditions, including lysosomal storage diseases, spinal cord injury, cerebral palsy, and multiple sclerosis. The agreement also provides for full settlement of any potential claims that either we or ReNeuron might have had against the other in connection with any putative infringement of certain of each party’s patent rights prior to the effective date of the agreement. As part of the agreement, we received in aggregate, approximately 10,097,000 ordinary shares of ReNeuron common stock, net of approximately 122,000 shares that were transferred to NeuroSpheres. Between 2007 and 2011, we sold our entire holdings of shares of ReNeuron common stock for aggregate net proceeds of approximately $3,743,000. As of June 30, 2011, we no longer hold any shares of ReNeuron.

Our foreign exchange risk is an exposure to foreign currency exchange rates on the earnings, cash flows and financial position of our foreign subsidiary in the United Kingdom. Financial statements of our foreign subsidiary are translated into U.S. dollars from U.K. pounds (GBP), using period-end exchange rates for assets and liabilities and average exchange rates for revenues and expenses. Adjustments resulting from translating net assets are reported as a separate component of “Accumulated other comprehensive income (loss)” within shareholders’ equity under the caption “Unrealized gain (loss) on foreign currency translation”. A hypothetical 10% weakening of the U.S. dollar in relation to the GBP would have resulted in an approximate $100,000 increase in our net loss reported for the year ended December 31, 2011. Because we are currently not subject to material foreign currency exchange risk with respect to revenue transactions and cash balances, we have not to date entered into any hedging contracts.

Item 8. ***FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA***

STEMCELLS, INC.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
StemCells, Inc.

We have audited the accompanying consolidated balance sheets of StemCells, Inc. (a Delaware corporation) and subsidiaries (collectively, the "Company") as of December 31, 2011 and 2010, and the related consolidated statements of operations, changes in stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2011. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of StemCells, Inc. and subsidiaries as of December 31, 2011 and 2010, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2011, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with standards of the Public Company Accounting Oversight Board (United States), StemCells, Inc. 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 14, 2012 expressed an unqualified opinion thereon.

/s/ GRANT THORNTON LLP

San Francisco, California
March 14, 2012

StemCells, Inc.

Consolidated Balance Sheets

	December 31, 2011	December 31, 2010
ASSETS		
Current assets:		
Cash and cash equivalents	$ 13,311,261	$ 19,707,821
Marketable securities, current	3,280,591	190,804
Trade receivables	54,527	118,890
Other receivables	213,500	151,144
Prepaid assets	506,464	610,980
Other current assets	22,063	389,039
Total current assets	17,388,406	21,168,678
Property, plant and equipment, net	2,054,563	2,626,821
Other assets, non-current	1,856,057	1,931,871
Goodwill	1,895,000	1,877,315
Other intangible assets, net	2,011,473	2,996,888
Total assets	$ 25,205,499	$ 30,601,573
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,066,495	$ 1,098,962
Accrued expenses and other current liabilities	2,970,251	2,828,168
Accrued wind-down expenses, current	1,360,766	1,310,571
Deferred revenue, current	43,910	45,885
Capital lease obligation, current	17,979	67,847
Deferred rent, current	2,603	—
Bonds payable, current	191,250	176,250
Total current liabilities	5,653,254	5,527,683
Capital lease obligation, non-current	—	17,979
Bonds payable, non-current	331,250	522,500
Fair value of warrant liability	6,042,315	6,671,929
Deposits and other long-term liabilities	281,807	276,439
Accrued wind-down expenses, non-current	774,020	1,989,800
Deferred rent, non-current	1,301,167	1,227
Deferred revenue, non-current	96,562	113,387
Total liabilities	14,480,375	15,120,944
Commitments and contingencies (Note 12)		
Stockholders' equity:		
Common stock, $0.01 par value; 75,000,000 shares authorized; issued and outstanding 22,427,955 at December 31, 2011 and 12,731,287 at December 31, 2010	1,472,776	1,273,128
Additional paid-in capital	341,811,657	325,359,265
Accumulated deficit	(332,600,022)	(311,271,486)
Accumulated other comprehensive income	40,713	119,722
Total stockholders' equity	10,725,124	15,480,629
Total liabilities and stockholders' equity	$ 25,205,499	$ 30,601,573

See Notes to Consolidated Financial Statements.

StemCells, Inc.

Consolidated Statements of Operations

	Year Ended December 31,		
	2011	2010	2009
Revenue:			
Revenue from licensing agreements and grants	$ 557,880	$ 927,772	$ 608,011
Revenue from product sales	662,790	499,200	384,859
Total revenue	1,220,670	1,426,972	992,870
Cost of product sales	214,811	168,424	261,443
Gross profit	1,005,859	1,258,548	731,427
Operating expenses:			
Research and development	19,937,764	21,019,301	19,929,592
Selling, general and administrative	8,202,375	9,376,774	9,530,421
Wind-down expenses	287,122	221,991	649,608
Impairment of intangible asset	654,961	—	—
Total operating expenses	29,082,222	30,618,066	30,109,621
Operating loss	(28,076,363)	(29,359,518)	(29,378,194)
Other income (expense):			
Realized gain on sale of marketable securities	83,750	—	406,910
Change in fair value of warrant liability	6,612,092	3,005,040	1,898,603
Interest income	13,942	26,728	67,345
Interest expense	(71,363)	(93,382)	(110,807)
Qualifying therapeutic discovery project grant	—	977,917	—
Other income (expense), net	109,404	199,664	89,732
Total other income (expense), net	6,747,825	4,115,967	2,351,783
Net loss	$(21,328,536)	$ (25,243,551)	$ (27,026,411)
Basic and diluted net loss per share	$ (1.50)	$ (2.05)	$ (2.55)
Shares used to compute basic and diluted loss per share	14,187,885	12,330,299	10,604,596

See Notes to Consolidated Financial Statements.

StemCells, Inc.

Consolidated Statement of Stockholders' Equity

	Common Stock				Accumulated Other	
	Shares	Amount	Additional Paid-in Capital	Accumulated Deficit	Comprehensive Income (Loss)	Total Stockholders' Equity
Balances, December 31, 2008	9,494,560	949,455	279,868,802	(259,001,524)	(7,748)	21,808,985
Comprehensive loss						
Net loss	—	—	—	(27,026,411)	—	(27,026,411)
Unrealized gain on foreign currency translation	—	—	—	—	272,184	272,184
Change in unrealized gain on securities available-for-sale	—	—	—	—	130,287	130,287
Comprehensive loss						(26,623,940)
Issuance of common stock and warrants, net of issuance cost of $1,351,487	1,981,740	198,174	26,269,140	—	—	26,467,314
Common stock issued for acquisition of SCS	265,000	26,500	4,399,000	—	—	4,425,500
Common stock issued for licensing agreements	590	59	9,941	—	—	10,000
Common stock issued pursuant to employee benefit plan	9,848	985	155,947	—	—	156,932
Compensation expense from grant of options, restricted stock units and stock (fair value)	—	—	4,046,339	—	—	4,046,339
Exercise of employee and director stock options	31,528	3,152	249,832	—	—	252,984
Exercise and net settlement of restricted stock units	34,245	3,425	(383,973)	—	—	(380,548)
Exercise of warrants	17,447	1,745	329,756	—	—	331,501
Balances, December 31, 2009	**11,834,958**	**$1,183,495**	**314,944,784**	**(286,027,935)**	**394,723**	**30,495,067**
Comprehensive loss						
Net loss	—	—	—	(25,243,551)	—	(25,243,551)
Unrealized loss on foreign currency translation	—	—	—	—	(268,810)	(268,810)
Change in unrealized gain on securities available-for-sale	—	—	—	—	(6,191)	(6,191)
Comprehensive loss						(25,518,552)
Issuance of common stock, net of issuance cost of $480,835	847,520	84,752	7,194,482	—	—	7,279,234
Common stock issued pursuant to employee benefit plan	18,488	1,849	230,380	—	—	232,229
Compensation expense from grant of options, restricted stock units and stock (fair value)	—	—	3,697,405	—	—	3,697,405
Exercise of employee and director stock options	3,451	345	19,457	—	—	19,802
Exercise and net settlement of restricted stock units	53,370	5,337	(488,743)	—	—	(483,406)
Stock retired from settlement agreement	(26,500)	(2,650)	(238,500)	—	—	(241,150)
Balances, December 31, 2010	**12,731,287**	**$1,273,128**	**$ 325,359,265**	**$ (311,271,486)**	**$ 119,722**	**$ 15,480,629**
Comprehensive loss						
Net loss	—	—	—	(21,328,536)	—	(21,328,536)
Unrealized gain on foreign currency translation	—	—	—	—	40,032	40,032
Change in unrealized loss on securities available-for-sale	—	—	—	—	(119,041)	(119,041)
Comprehensive loss						(21,407,545)
Issuance of common stock and warrants, net of issuance cost of $1,522,083	9,525,116	187,779	13,604,561	—	—	13,792,340
Common stock issued pursuant to employee benefit plan	35,164	1,327	163,569	—	—	164,896
Compensation expense from grant of options, restricted stock units and stock (fair value)	32,631	1,267	3,094,776	—	—	3,096,043
Exercise of employee and director stock options	1,692	169	2,217	—	—	2,386
Exercise and net settlement of restricted stock units	102,065	9,106	(412,731)	—	—	(403,625)
Balances, December 31, 2011	**22,427,955**	**$1,472,776**	**$ 341,811,657**	**$ (332,600,022)**	**$ 40,713**	**$ 10,725,124**

See Notes to Consolidated Financial Statements.

StemCells, Inc.

Consolidated Statements of Cash Flows

	Year Ended December 31,		
	2011	2010	2009
Cash flows from operating activities:			
Net loss	$(21,328,536)	$(25,243,551)	$ (27,026,411)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	1,207,911	1,520,772	1,694,490
Stock-based compensation	3,260,937	3,929,634	4,203,270
Loss (gain) on disposal of fixed assets	32,145	(10,462)	—
Write-down of fixed assets	—	62,807	—
Loss on disposal of intangible assets	—	67,151	—
Impairment of intangible asset	654,961	—	—
Gain from settlement agreement, net	—	(226,580)	—
Gain on sale of marketable securities	(83,750)	—	(406,910)
Change in fair value of warrant liability	(6,612,092)	(3,005,040)	(1,898,603)
Changes in operating assets and liabilities:			
Other receivables	(78,503)	550,282	275,726
Trade receivables	67,974	(39,146)	—
Prepaid and other current assets	495,662	(437,110)	129,747
Other assets	76,187	601,532	(436,424)
Accounts payable and accrued expenses	130,766	(808,722)	477,170
Accrued wind-down expenses	(1,165,585)	(1,202,733)	(1,027,242)
Deferred revenue	(18,903)	(79,211)	(361,329)
Deferred rent	1,302,543	(129,764)	(306,153)
Deposits and other long-term liabilities	—	(69,772)	—
Net cash used in operating activities	(22,058,283)	(24,519,913)	(24,682,669)
Cash flows from investing activities:			
Purchases of marketable debt securities	(10,188,285)	—	(4,976,959)
Sales or maturities of marketable debt securities	6,905,000	—	8,994,806
Proceeds from sales of marketable equity securities	158,206	—	510,213
Advance made under note receivable	—	—	(79,829)
Purchases of property, plant and equipment	(296,933)	(923,964)	(701,240)
Purchase of intangibles and other assets	—	—	(15,000)
Net cash provided by (used in) investing activities	(3,422,012)	(923,964)	3,731,991
Cash flows from financing activities:			
Proceeds from issuance of common stock, net	19,774,820	7,279,234	29,602,953
Proceeds from the exercise of stock options	2,386	19,802	252,984
Payments related to net share issuance of stock based awards	(403,625)	(483,406)	(380,548)
Proceeds from the exercise of warrants	—	—	331,501
Proceeds (repayments) of capital lease obligations	(67,847)	(68,000)	128,557
Repayments of bonds payable	(176,250)	(161,250)	(149,167)
Net cash provided by financing activities	19,129,484	6,586,380	29,786,280
Increase (decrease) in cash and cash equivalents	(6,350,811)	(18,857,497)	8,835,602
Cash and cash equivalents at beginning of year	19,707,821	38,617,977	30,042,986
Effects of foreign currency rate changes on cash	(45,749)	(52,659)	(260,611)
Cash and cash equivalents at end of the year	$ 13,311,261	$ 19,707,821	$ 38,617,977
Supplemental disclosure of cash flow information:			
Interest paid	$ 71,363	$ 93,382	$ 110,807
Supplemental schedule of non-cash investing and financing activities:			
Stock retired from settlement agreement(1)	—	$ 241,150	—
Stock issued as part of our acquisition of the operations of SCS Plc(1)	—	—	$ 4,425,500
Forgiveness of principal and accrued interest on notes receivable(1)	—	—	$ 709,076
Stock issued for licensing agreements(2)	—	—	$ 10,000

(1) On April 1, 2009, we acquired the operations of Stem Cell Sciences Plc (SCS, which subsequently changed its name to Asset Realisation Company Limited). As consideration, we issued 265,000 shares of our common stock with a closing price of $16.70 per share and waived certain commitments of SCS to repay approximately $709,000 in principal and accrued interest owed to us. Pursuant to the acquisition agreement, 20% of the 265,000 shares were placed into an escrow for a twelve month period to satisfy any indemnification obligations owed to us by SCS. On August 19, 2010, we entered into a settlement agreement with SCS in which the parties agreed to the release of half the escrowed shares to SCS and half to us in full satisfaction of our claims for indemnification, and both parties waived all other claims, known and unknown, against the other. The 26,500 shares returned to us are being treated as retired and no longer outstanding. We have recorded approximately $227,000 as other income, which was the value of these shares based on the closing price of $9.10 per share on August 19, 2010, and net of amounts already accrued for potential claims against the escrowed shares.

(2) Under terms of a license agreement with the California Institute of Technology (Cal Tech), annual fees of $5,000 were due on each of two patents to which StemCells holds a license from Cal Tech, payable in cash or stock at our choice. We elected to pay the fees in common stock and issued shares of 590 in 2009, and 692 in 2008. In September 2010, we terminated all our licensing agreements with Cal Tech.

See Notes to Consolidated Financial Statements.

StemCells, Inc.

Notes to Consolidated Financial Statements
December 31, 2011

Note 1. Summary of Significant Accounting Policies

Nature of Business

StemCells, Inc., a Delaware corporation, is a biopharmaceutical company that operates in one segment, the research, development, and commercialization of stem cell therapeutics and related technologies.

The accompanying consolidated financial statements have been prepared on the basis that we will continue as a going concern. Since inception, we have incurred annual losses and negative cash flows from operations and have an accumulated deficit of approximately $333 million at December 31, 2011. We have not derived significant revenue from the sale of products, and do not expect to receive significant revenue from product sales for at least several years. We may never be able to realize sufficient revenue to achieve or sustain profitability in the future.

We expect to incur additional operating losses over the foreseeable future. We have limited liquidity and capital resources and must obtain significant additional capital and other resources in order to sustain our product development efforts, to provide funding for the acquisition of technologies and intellectual property rights, preclinical and clinical testing of our anticipated products, pursuit of regulatory approvals, acquisition of capital equipment, laboratory and office facilities, establishment of production capabilities, general and administrative expenses and other working capital requirements. We rely on our cash reserves, proceeds from equity and debt offerings, proceeds from the transfer or sale of intellectual property rights, equipment, facilities or investments, government grants and funding from collaborative arrangements, to fund our operations. Funding may not be available when needed — at all or on terms acceptable to us. If we exhaust our cash reserves and are unable to obtain adequate financing, we may be unable to meet our operating obligations and we may be required to initiate bankruptcy proceedings. The 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.

Reverse Stock Split

We effected a 1-for-10 reverse stock split on July 6, 2011. As a result of the reverse stock split, the outstanding shares of common stock issued and outstanding were reduced from approximately 139 million to 13.9 million. Concurrent with the reverse stock split, we reduced the authorized number of common shares from 250 million to 75 million. The reverse stock split proportionately reduced all issued and outstanding shares of our common stock, as well as common stock underlying stock options, warrants and other common stock based equity grants outstanding immediately prior to the effectiveness of the reverse stock split. The exercise price on outstanding equity-based grants was proportionately increased, and the number of shares available under our equity-based plans was proportionately reduced. Share and per share data (except par value) for the periods presented reflect the effects of this reverse stock split. References to numbers of shares of common stock and per share data in the accompanying financial statements and notes thereto have been adjusted to reflect the reverse stock split on a retroactive basis.

Principles of Consolidation

The consolidated financial statements include the accounts of StemCells, Inc., and our wholly-owned subsidiaries, StemCells California, Inc., StemCells Property Holding LLC, Stem Cell Sciences Holdings Ltd., Stem Cell Sciences (U.K.) Ltd., and Stem Cell Sciences (Australia) Pty Ltd. All significant intercompany accounts and transactions have been eliminated.

Use of Estimates

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

Significant estimates include the following:

- accrued wind-down expenses (see Note 11, “Wind-Down and Exit Costs”);
- the fair value of share-based awards recognized as compensation (see Note 10, “Stock-Based Compensation”);
- valuation allowance against net deferred tax assets (see Note 18, “Income Taxes”);
- the fair value of warrants recorded as a liability (see Note 13, “Warrant Liability”); and
- the fair value of intangible assets acquired (see Note 5, “Acquisition of SCS Operations”).

Financial Instruments

Cash Equivalents and Marketable Securities

All money market and highly liquid investments with a maturity of 90 days or less at the date of purchase are classified as cash equivalents. Highly liquid investments with maturities of 365 days or less not previously classified as cash equivalents are classified as marketable securities, current. Investments with maturities greater than 365 days are classified as marketable securities, non-current. Our marketable debt and equity securities have been classified and accounted for as available-for-sale. Management determines the appropriate classification of its investments in marketable debt and equity securities at the time of purchase and reevaluates the available-for-sale designations as of each balance sheet date. These securities are carried at fair value (see Note 2, “Financial Instruments,” below), with the unrealized gains and losses reported as a component of stockholders’ equity. The cost of securities sold is based upon the specific identification method.

If the estimated fair value of a security is below its carrying value, we evaluate whether we have the intent and ability to retain our investment for a period of time sufficient to allow for any anticipated recovery to the cost of the investment, and whether evidence indicating that the cost of the investment is recoverable within a reasonable period of time outweighs evidence to the contrary. Other-than-temporary declines in estimated fair value of all marketable securities are charged to “Other income (expense), net.”

Trade and Other Receivables

Our receivables generally consist of interest income on our financial instruments, revenue from licensing agreements and grants, revenue from product sales, and rent from our sub-lease tenants. Since the majority of our product sales are prepaid, we regard the associated credit risk to be minimal.

Estimated Fair Value of Financial Instruments

The estimated fair values of cash and cash equivalents, receivables, accounts payable, and the current portion of the bonds payable approximates their carrying values due to the short maturities of these instruments. The long-term portion of the bonds payable approximates its carrying value as the interest rate for the bond series approximates our current borrowing rate.

Property, Plant and Equipment

Property, plant and equipment, including those held under capital lease, are stated at cost. Depreciation is computed by use of the straight-line method over the estimated useful lives of the assets, or the lease term if shorter, as follows:

Building and improvements	3 - 20 years
Machinery and equipment	3 - 10 years
Furniture and fixtures	3 - 10 years

Repairs and maintenance costs are expensed as incurred.

Business Combinations

The operating results of acquired companies or operations are included in our consolidated financial statements starting on the date of acquisition. Goodwill is recorded at the time of an acquisition and is calculated as the difference between the aggregate consideration paid for an acquisition and the fair value of the net tangible and intangible assets acquired. Accounting for acquisitions requires extensive use of accounting estimates and judgments to allocate the purchase price to the fair value of the net tangible and intangible assets acquired, including in-process research and development (IPR&D).

Goodwill and Other Intangible Assets (Patent and License Costs)

Goodwill of approximately $1,895,000 at December 31, 2011, relates to the acquisition of SCS operations. Goodwill and intangible assets deemed to have indefinite lives are not amortized but are subject to annual impairment tests. If the assumptions and estimates used to allocate the purchase price are not correct, or if business conditions change, purchase price adjustments or future asset impairment charges could be required. We test goodwill for impairment on an annual basis or more frequently if we believe indicators of impairment exist. Impairment evaluations involve management estimates of asset useful lives and future cash flows. Significant management judgment is required in the forecasts of future operating results that are used in the evaluations, and it is possible, even likely, that the plans and estimates used may be incorrect. If our actual results, or the plans and estimates used in future impairment analysis are lower than the original estimates used to assess the recoverability of these assets, we could incur additional impairment charges in a future period. We completed our annual impairment testing during the fourth quarter of 2011, and determined that there was no impairment of goodwill.

Other intangible assets, net were approximately $2,011,000 at December 31, 2011. Intangible assets with finite useful lives are amortized generally on a straight-line basis over the periods benefited. Intangible assets are reviewed for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. In December 2011, in part because of management’s decision to focus on our therapeutic product development programs and not to allocate time and resources to the assays technology, we determined that we could not predict the future cash flows from the intangible IPR&D asset related to the assays technology. Therefore, we determined that the intangible asset was impaired and wrote off the approximately $655,000 carrying value of the asset.

Prior to fiscal year 2001, we capitalized certain patent costs, which are being amortized over the estimated life of the patent and would be expensed at the time such patents are deemed to have no continuing value. Since 2001, all patent costs are expensed as incurred. License costs are capitalized and amortized over the estimated life of the license agreement. In 2010, we wrote-off the unamortized amount of approximately $67,000 for certain license agreements that we terminated.

Impairment of Long-Lived Tangible Assets

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. If property, plant, and equipment are considered to be impaired, the impairment to be recognized equals the amount by which the carrying value of the assets exceeds

its estimated fair market value. In 2010, we recorded a charge of approximately $63,000, to adjust the fair value of certain lab equipment we expect to dispose. No such impairment was recognized during the years 2011 and 2009.

Warrant Liability

We account for our warrants in accordance with U.S. GAAP which defines how freestanding contracts that are indexed to and potentially settled in a company's own stock should be measured and classified. Authoritative accounting guidance prescribes that only warrants issued under contracts that cannot be net-cash settled, and are both indexed to and settled in the Company's common stock can be classified as equity. As part of both our November 2008 and November 2009 financings, we issued warrants with five year terms to purchase 1,034,483 and 400,000 shares of our common stock at $23.00 and $15.00 per share respectively. As part of our December 2011 financing, we issued Series A Warrants with five year terms to purchase 8,000,000 shares at $1.40 per share and Series B Warrants with a ninety trading days terms to purchase 8,000,000 units at $1.25 per unit. Each unit underlying the Series B warrants consists of one share of our common stock and one Series A Warrant. As the warrant agreements did not meet the specific conditions for equity classification, we are required to classify the fair value of the warrants issued as a liability, with subsequent changes in fair value to be recorded as income (loss) on change in fair value of warrant liability. The fair value of the warrants related to the 2008 and 2009 financing is determined using the Black-Scholes-Merton (Black-Scholes) option pricing model and the fair value of the warrants related to the 2011 financing is determined using the Monte Carlo simulation model. The fair value is affected by changes in inputs to these models including our stock price, expected stock price volatility, the contractual term and the risk-free interest rate. The use of the Monte Carlo simulation model requires input of additional assumptions including the progress of our R&D programs and its affect on potential future financings. We will continue to classify the fair value of the warrants as a liability until the warrants are exercised, expire or are amended in a way that would no longer require these warrants to be classified as a liability.

Revenue Recognition

We currently recognize revenue resulting from licensing agreements, government grants, and product sales.

Licensing agreements — We currently recognize revenue resulting from the licensing and use of our technology and intellectual property. Such licensing agreements may contain multiple elements, such as up-front fees, payments related to the achievement of particular milestones and royalties. Revenue from up-front fees for licensing agreements that contain multiple elements are generally deferred and recognized on a straight-line basis over the term of the agreement. Fees associated with substantive at risk performance-based milestones are recognized as revenue upon completion of the scientific or regulatory event specified in the agreement, and royalties received are recognized as earned. Revenue from licensing agreements is recognized net of a fixed percentage due to licensors as royalties.

Government grants — Grant revenue from government agencies are funds received to cover specific expenses and are recognized as earned upon either the incurring of reimbursable expenses directly related to the particular research plan or the completion of certain development milestones as defined within the terms of the relevant collaborative agreement or grant.

Product sales — We currently recognize revenue from the sale of products when the products are shipped, title to the products are transferred to the customer, when no further contingencies or material performance obligations are warranted, and thereby earning the right to receive reasonably assured payments for products sold and delivered. Cost of product sales includes labor, raw materials and shipping supplies. Product sales are presented net of any sales or value-added taxes.

Research and Development Costs

Our research and development expenses consist primarily of salaries and related personnel expenses; costs associated with clinical trials and regulatory submissions; costs associated with preclinical activities such as toxicology studies; certain patent-related costs such as licensing; facilities-related costs such as depreciation; lab

equipment and supplies. Clinical trial expenses include payments to vendors such as clinical research organizations, contract manufacturers, clinical trial sites, laboratories for testing clinical samples and consultants. All research and development costs are expensed as incurred.

Stock-Based Compensation

We expense the estimated fair value of our stock-based compensation awards. The estimated fair value is calculated using the Black-Scholes model. The compensation cost we record for these awards are based on their grant-date fair value as estimated and amortized over their vesting period. At the end of each reporting period we estimate forfeiture rates based on our historical experience within separate groups of employees and adjust stock-based compensation expense accordingly. See Note 10, “Stock-Based Compensation” for further information.

Income Taxes

When accounting for income taxes, we recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. Income tax receivables and liabilities and deferred tax assets and liabilities are recognized based on the amounts that more likely than not will be sustained upon ultimate settlement with taxing authorities.

Developing our provision for income taxes and analyzing our uncertain tax positions requires significant judgment and knowledge of federal and state income tax laws, regulations and strategies, including the determination of deferred tax assets and liabilities and, any valuation allowances that may be required for deferred tax assets.

We assess the realization of our deferred tax assets to determine whether an income tax valuation allowance is required. Based on such evidence that can be objectively verified, we determine whether it is more likely than not that all or a portion of the deferred tax assets will be realized. The main factors that we consider include:

- cumulative losses in recent years;
- income/losses expected in future years; and
- the applicable statute of limitations.

Tax benefits associated with uncertain tax positions are recognized in the period in which one of the following conditions is satisfied: (1) the more likely than not recognition threshold is satisfied; (2) the position is ultimately settled through negotiation or litigation; or (3) the statute of limitations for the taxing authority to examine and challenge the position has expired. Tax benefits associated with an uncertain tax position are derecognized in the period in which the more likely than not recognition threshold is no longer satisfied.

We concluded that the realization of deferred tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain. Accordingly, the net deferred tax assets have been fully offset by a valuation allowance.

Net Loss per Share

Basic net loss per share is computed based on the weighted-average number of shares of our common stock outstanding during the period. Diluted net loss per share is computed based on the weighted-average number of shares of our common stock and other dilutive securities.

The following are the basic and dilutive net loss per share computations for the last three fiscal years:

	2011	2010	2009
Net loss	$(21,328,536)	$(25,243,551)	$(27,026,411)
Weighted average shares outstanding used to compute basic and diluted net loss per share	14,187,885	12,330,299	10,604,596
Basic and diluted net loss per share	$ (1.50)	$ (2.05)	$ (2.55)

Outstanding options, warrants and restricted stock units were excluded from the computation of diluted net loss per share because the effect would have been anti-dilutive for all periods presented below:

	2011	2010	2009
Outstanding options	875,498	1,098,242	926,081
Restricted stock units	357,541	469,505	243,790
Outstanding warrants	17,434,483	1,434,483	1,434,483
Total	18,667,522	3,002,230	2,604,354

Comprehensive Income (Loss)

Comprehensive income (loss) is comprised of net losses and other comprehensive income (or "OCI"). OCI includes certain changes in stockholders' equity that are excluded from net losses. Specifically, we include in OCI changes in unrealized gains and losses on our marketable securities and unrealized gains and losses on foreign currency translations. Comprehensive loss for the years ended December 31, 2011, 2010 and 2009 has been reflected in the Consolidated Statements of Stockholders' Equity.

The components of our accumulated OCI, as of December 31 of each year shown, are as follows:

	2011	2010	2009
Net unrealized gain (loss) on marketable securities	$(2,694)	$ 116,348	$122,539
Unrealized gain on foreign currency translation	43,407	3,374	272,184
Accumulated other comprehensive income (loss)	$ 40,713	$119,722	$ 394,723

The activity in OCI is as follows:

	2011	2010	2009
Net change in unrealized gains and losses on marketable securities	$(119,041)	$ (6,191)	$ 130,287
Recognition in net loss, other than temporary impairment of marketable securities	—	—	—
Net change in unrealized gains and losses on foreign currency translations	40,032	(268,810)	272,184
Other comprehensive income (loss)	$ (79,009)	$ (275,001)	$ 402,471

Recent Accounting Pronouncements

In May 2011, the FASB issued additional authoritative guidance relating to fair value measurement and disclosure requirements. For fair value measurements categorized in Level 3 of the fair value hierarchy, the new guidance requires (1) disclosure of quantitative information about unobservable inputs; (2) a description of the valuation processes used by the entity; and (3) a qualitative discussion about the sensitivity of the fair value measurement to changes in unobservable inputs and the interrelationships between those unobservable inputs, if any. Entities must report the level in the fair value hierarchy of assets and liabilities that are not recorded at fair value in the statement of financial position but for which fair value is disclosed. The new requirements clarify that the concepts of highest and best use and valuation premise only apply to measuring the fair value of nonfinancial assets. The new requirements also specify that in the absence of a Level 1 input, a reporting entity should incorporate a premium or a discount in a fair value measurement if a market participant would take into account such an input in pricing and asset or liability. Additionally, the new guidance introduces an option to measure certain financial assets and financial liabilities with offsetting positions on a net basis if certain criteria are met. For public entities, these new requirements become effective for interim and annual periods beginning after December 15, 2011. These requirements are applicable to our fiscal year beginning January 1, 2012. We do not expect this new guidance to have a material effect on our consolidated financial statements.

In June 2011, the FASB issued new accounting guidance which eliminates the current option to present other comprehensive income and its components in the statement of changes in equity. However, under the new guidance, comprehensive income and its components must still be presented under one of two new alternatives. Under the first alternative, the components of other comprehensive income and the components of net income may be presented in one continuous statement referred to as the statement of comprehensive income. Under the second alternative, a statement of other comprehensive income would immediately follow the statement of net income and must be shown with equal prominence as the other primary financial statements. Under either alternative, an entity is required to present each component of net income along with total net income, each component of other comprehensive income along with a total for other comprehensive income, and a total amount for comprehensive income. For public entities, these new requirements will become effective for fiscal years, and interim periods within those years, beginning after December 15, 2011 and should be applied retrospectively to all prior periods presented. It is applicable to our fiscal year beginning January 1, 2012. We do not expect this new guidance to have a material effect on our consolidated financial statements.

In September 2011, the FASB issued an update to previous guidance on testing goodwill for impairment. The amendments in this update simplifies how entities, both public and nonpublic companies test goodwill for impairment. Under the amendments, an entity has the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If, after assessing the totality of events or circumstances, an entity determines it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then performing the two-step impairment test is unnecessary. However, if an entity concludes otherwise, then it is required to perform the first step of the two-step impairment test by calculating the fair value of the reporting unit and comparing the fair value with the carrying amount of the reporting unit. If the carrying amount of a reporting unit exceeds its fair value, then the entity is required to perform the second step of the goodwill impairment test to measure the amount of the impairment loss, if any. An entity has the option to bypass the qualitative assessment for any reporting unit in any period and proceed directly to performing the first step of the two-step goodwill impairment test. An entity may resume performing the qualitative assessment in any subsequent period. The amendments are effective for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011. We do not expect this new guidance to have a material effect on our consolidated financial statements.

Note 2. Financial Instruments

Cash, cash equivalents and marketable securities

The following table summarizes the fair value of our cash, cash equivalents and available-for-sale securities held in our investment portfolio:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
December 31, 2011				
Cash	$ 291,093	$ —	$ —	$ 291,093
Cash equivalents (money market accounts)	13,020,168	—	—	13,020,168
Marketable debt securities, current	3,283,209	(2,618)	—	3,280,591
Total cash, cash equivalents, and marketable securities	$16,594,470	$ (2,618)	$ —	$16,591,852
December 31, 2010				
Cash	$ 1,001,868	$ —	$ —	$ 1,001,868
Cash equivalents (money market accounts)	18,705,953	—	—	18,705,953
Marketable equity securities, current	74,456	116,348	—	190,804
Total cash, cash equivalents, and marketable securities	$19,782,277	$116,348	$ —	$19,898,625

At December 31, 2011, our investment in money market accounts are composed primarily of U.S. Treasury debt securities, which are classified as cash equivalents in the accompanying Consolidated Balance Sheet due to their short maturities. Our investment in short-term marketable debt securities are composed primarily of commercial paper and corporate debt securities. From time to time, we carry cash balances in excess of federally insured limits. Our cash balance at December 31, 2011 includes approximately $45,000 held in U.K. pounds by our U.K. subsidiary.

Our investment in marketable equity securities consisted of ordinary shares of ReNeuron Group Plc (ReNeuron), a publicly listed U.K. corporation. In July 2005, we entered into an agreement with ReNeuron under which we granted ReNeuron a license that allows ReNeuron to exploit its "c-mycER" conditionally immortalized adult human neural stem cell technology for therapy and other purposes. We received shares of ReNeuron common stock, as well as a cross-license to the exclusive use of ReNeuron's technology for certain diseases and conditions, including lysosomal storage diseases, spinal cord injury, cerebral palsy, and multiple sclerosis. The agreement also provides for full settlement of any potential claims that either we or ReNeuron might have had against the other in connection with any putative infringement of certain of each party's patent rights prior to the effective date of the agreement. In July and August 2005, we received approximately 8,836,000 ordinary shares of ReNeuron common stock, net of approximately 104,000 shares that were transferred to NeuroSpheres, Ltd., an Alberta corporation (NeuroSpheres), and subsequently, as a result of certain anti-dilution provisions in the agreement, we received approximately 1,261,000 more shares, net of approximately 18,000 shares that were transferred to NeuroSpheres. In February 2007, we sold 5,275,000 shares for net proceeds of approximately $3,075,000. We recognized approximately $716,000 as realized gain from this transaction. In the first quarter of 2009, we sold 2,900,000 shares of ReNeuron and received net proceeds of approximately $510,000 for a realized gain of approximately $398,000. In the second quarter of 2011, we sold our remaining 1,921,924 shares of ReNeuron and received net proceeds of approximately $158,000 for a realized gain of approximately $84,000. As of June 30, 2011, we no longer hold any shares of ReNeuron.

Changes in fair value as a result of changes in market price per share or the exchange rate between the U.S. dollar and the British pound are accounted for under "other comprehensive income (loss)" if deemed temporary and are not recorded as "other income or loss" until the shares are disposed of and a gain or loss realized or an impairment is considered other than temporary.

We do not hold any investments that were in an unrealized loss position as of December 31, 2011.

Note Receivable

In December 2008 and March 2009, we made two secured loans to SCS in connection with our acquisition of its operations. The loans accrued interest at 8% per annum and were repayable six months after the initial funding. At March 31, 2009, the principal and accrued interest for these two loans together totaled approximately $709,000. On April 1, 2009, we closed the acquisition of the operations of SCS, and in connection with that transaction, we waived the obligation of SCS to repay the principal and accrued interest of these two loans.

Note 3. Fair Value Measurement

Fair value is defined as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or a liability. As a basis for considering such assumptions, We are required to apply a three-tier value hierarchy, which prioritizes the inputs used in the valuation methodologies in measuring fair value. The three levels of the fair value hierarchy are:

Level 1 — Observable inputs that reflect quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2 — Directly or indirectly observable inputs other than in Level 1, that include quoted prices for similar assets or liabilities in active markets or quoted prices for identical or similar assets or liabilities in markets that are not active.

Level 3 — Unobservable inputs which are supported by little or no market activity that reflects the reporting entity's own assumptions about the assumptions that market participants would use in pricing the asset or liability

The fair value hierarchy also requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value.

Assets measured at fair value as of December 31, 2011 and 2010 are classified below based on the three fair value hierarchy tiers described above. Our cash equivalents and marketable securities are classified within Level 1 or Level 2. This is because our cash equivalents and marketable securities are valued primarily using quoted market prices or alternative pricing sources and models utilizing market observable inputs.

The following table presents our financial assets and liabilities measured at fair value:

	Fair Value Measurement at Reporting Date Using			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)	As of December 31, 2011
Financial Assets				
Cash Equivalents:				
Money market funds	$ 1,569,811	$ —	$ —	$ 1,569,811
U.S. Treasury debt obligations	11,450,357	—	—	11,450,357
Marketable Securities:				
Debt securities	3,280,591	—	—	3,280,591
Total financial assets	$ 16,300,759	$ —	$ —	$16,300,759
Financial Liabilities				
Bond obligation	$ —	$ 522,500	$ —	$ 522,500
Warrant liabilities	—	31,195	6,011,120	6,042,315
Total financial liabilities	$ —	$ 553,695	$6,011,120	$ 6,564,815

Level 3 Reconciliation

The following table presents a rollforward for liabilities measured at fair value using significant unobservable inputs (Level 3) for 2011.

Balance at December 31, 2010	$ —
Warrant liability	6,011,120
Balance at December 31, 2011	$6,011,120

Note 4. Property, Plant and Equipment

Property, plant and equipment balances at December 31 are summarized below:

	2011	2010
Building and improvements	$ 3,430,542	$ 3,557,342
Machinery and equipment	7,002,196	7,586,385
Furniture and fixtures	591,617	398,262
	11,024,355	11,541,989
Less accumulated depreciation and amortization	(8,969,792)	(8,915,168)
Property, plant and equipment, net	$ 2,054,563	$ 2,626,821

Depreciation expense was approximately $842,000 in 2011, $1,093,000 in 2010, and $1,364,000 in 2009.

Note 5. Acquisition of SCS Operations

On April 1, 2009, we acquired the operations of SCS for an aggregate purchase price of approximately $5,135,000. The acquired operations includes proprietary cell technologies relating to embryonic stem cells, induced pluripotent stem (iPS) cells, and tissue-derived (adult) stem cells; expertise and infrastructure for providing cell-based assays for drug discovery; a media formulation and reagent business; and an intellectual property portfolio with claims relevant to cell processing, reprogramming and manipulation, as well as to gene targeting and insertion. These acquired operations will help us pursue applications of our cell technologies to develop cell-based research tools, which we believe represent nearer-term commercial opportunities.

As consideration for the acquired operations, we issued to SCS 265,000 shares of common stock and waived certain commitments of SCS to repay approximately $709,000 in principal and accrued interest owed to us. The closing price of our common stock on April 1, 2009 was $16.70 per share.

This transaction has been accounted for as a business purchase. We have evaluated the acquired assets and liabilities and believe that the book value of the net tangible assets acquired approximated fair market value. The primary method used to calculate the fair value of the intangible assets was the “Excess Earnings Method”. These intangible assets will be amortized over their estimated lives. Goodwill and acquired technology recorded as part of the acquisition will be tested periodically for impairment.

None of the goodwill is deductible for tax purposes.

At April 1, 2009, the purchase price has been allocated as follows:

	Allocated Purchase Price	Estimated Life of Intangible Assets in Years
Net tangible assets	$ 36,000	
Intangible assets:		
Customer relationships and developed technology	1,310,000	6 to 9
In process research and development	1,340,000	N/A
Trade name	310,000	15
Goodwill	2,139,000	N/A
Total	$5,135,000	

In-process research and development assets relate to: 1) the acquisition of certain intellectual property rights not expected to expire until 2027 related to our program focused on developing genetically engineered rat models of human disease (our “Transgenic Rat Program”), and 2) the acquisition of certain technology related to the commercialization of our SC Proven cell culture products and the development and commercialization of cell-based assay platforms for use in drug discovery and development (our “Assay Development Program”).

At the time of valuation (April 2009), the technology related to our Transgenic Rat Program was in its nascent stage and as for our Assay Development Program, we expected to achieve proof of concept by 2012. These technologies were not expected to begin generating revenue until 2011-2012. In December 2011, in part because of management's decision to focus on our therapeutic product development programs and not to allocate time and resources to the assays technology, we determined that we could not predict the future cash flows from the intangible IPR&D asset related to the assays technology. Therefore, we determined that the intangible asset was impaired and wrote off the approximately $655,000 carrying value of the asset.

Trade name relates to the "SC Proven" trademark of our cell culture products which we expect to market for 15 years from the date of acquisition, based on which, we estimated a remaining useful life of 15 years from the valuation date.

In connection with our acquisition of the operations of SCS, acquisition costs of approximately $693,000, which primarily consists of legal and other professional fees, were expensed in 2009. These costs are reported in our accompanying Consolidated Statements of Operations as part of our selling, general & administrative expense.

Note 6. Goodwill and Other Intangible Assets

In December 2009, we recorded approximately $533,000 for an R&D tax credit due to our wholly owned subsidiary Stem Cell Sciences (Australia) Pty Ltd. The R&D tax credit was due for the years 2008 and 2009. Approximately $381,000 of the tax credit was attributable to credits due as of the acquisition date and, accordingly, the purchase price allocation for the SCS acquisition was adjusted and the gross carrying amount of goodwill recorded at the date of acquisition was reduced by that amount. The remaining $152,000 was attributable to the period subsequent to the acquisition and is included as part of "Other income (expense), net" in our accompanying Consolidated Statements of Operations. In March 2010, we received approximately $47,000 for an R&D tax credit due to our wholly-owned subsidiary Stem Cell Sciences (Australia) Pty Ltd. The R&D tax credit was due for the year 2007. Accordingly, the purchase price allocation for the SCS acquisition was adjusted and the gross carrying amount of goodwill recorded at the date of acquisition was reduced by that amount

The following table represents changes in goodwill:

Balance as of January 1, 2009	$ —
Additions (related to the acquisition of SCS operations)	2,138,655
Reductions (R&D credit as described above)	(381,073)
Foreign currency translation	262,097
Balance as of December 31, 2009	$2,019,679
Reductions (R&D credit as described above)	(47,374)
Foreign currency translation	(94,990)
Balance as of December 31, 2010	$ 1,877,315
Foreign currency translation	17,685
Balance as of December 31, 2011	$ 1,895,000

The components of our other intangible assets at December 31 are summarized below:

	Estimated Useful Life	2011	2010
Customer relationships and developed technology	6-9	$ 915,487	$ 1,086,256
In-process research and development	N/A	525,921	1,265,224
Trade name	15	273,116	292,657
Patents	17	296,949	352,751
Total		$2,011,473	$2,996,888

In December 2011, in part because of management's decision to focus on our therapeutic product development programs and not to allocate time and resources to the assays technology, we determined that we could not predict the future cash flows from the intangible IPR&D asset related to the assays technology. Therefore, we determined that the intangible asset was impaired and wrote off the approximately $655,000 carrying value of the asset.

Amortization expense was approximately $366,000 in 2011, $427,000 in 2010, and $336,000 in 2009.

The expected future annual amortization expense for each of the next five years based on current balances of our intangible assets is as follows:

For the year ending December 31:	
2012	$259,098
2013	$259,098
2014	$258,887
2015	$258,582
2016	$252,993

Note 7. Other Assets

Other assets at December 31 are summarized below:

	2011	2010
Prepaid royalties	$ 698,922	$ 772,096
Security deposit (buildings and equipment lease)	1,157,135	1,159,775
Total other non-current assets	$1,856,057	$ 1,931,871

Note 8. Accounts Payable

Accounts payable at December 31 are summarized below:

	2011	2010
External services	$ 716,904	$ 516,970
Supplies	206,863	301,355
Other	142,728	280,637
Total accounts payable	$1,066,495	$1,098,962

Note 9. Accrued Expenses and Other Current Liabilities

Accrued expenses at December 31 are summarized below:

	2011	2010
External services	$ 1,204,137	$ 301,521
Employee compensation	1,361,954	2,153,922
Other	404,160	372,725
Total accrued expenses and other current liabilities	$2,970,251	$2,828,168

Note 10. Stock-Based Compensation

We currently grant stock-based compensation under two equity incentive plans. As of December 31, 2011, we had 1,039,966 shares available to grant under these two plans. At our annual stockholders meeting held on June 12, 2007, our stockholders approved an amendment to our 2006 Equity Incentive Plan to provide for an

annual increase in the number of shares of common stock available for issuance under the plan each January 1 (beginning January 1, 2008) equal to 4% of the outstanding common shares as of that date. The amendment further provided an aggregate limit of 3,000,000 shares issuable pursuant to incentive stock option awards under the plan. Under these two plans we may grant incentive stock options, nonqualified stock options, stock appreciation rights, restricted stock, restricted stock units, 401(k) Plan employer match in form of shares and performance-based shares to our employees, directors and consultants, at prices determined by our Board of Directors. Incentive stock options may only be granted to employees under these plans with a grant price not less than the fair market value on the date of grant.

Generally, stock options and restricted stock units granted to employees have a maximum term of ten years, and vest over a four year period from the date of grant; 25% vest at the end of one year, and 75% vest monthly over the remaining three-year service period. We may grant options and restricted stock units with different vesting terms from time to time. Upon employee termination of service, any unexercised vested option will be forfeited three months following termination or the expiration of the option, whichever is earlier.

Our stock-based compensation expense for the last three fiscal years was as follows:

	2011	2010	2009
Research and development expense	$ 1,680,431	$ 2,034,007	$ 2,208,440
General and administrative expense	1,580,506	1,895,627	1,994,830
Total stock-based compensation expense and effect on net loss	$ 3,260,937	$ 3,929,634	$ 4,203,270

As of December 31, 2011, we have approximately $3,288,000 of total unrecognized compensation expense related to unvested awards granted under our various share-based plans that we expect to recognize over a weighted-average period of 1.9 years.

The fair value of options granted is estimated as of the date of grant using the Black-Scholes option pricing model and expensed on a pro-rata straight-line basis over the period in which the stock options vest. The Black-Scholes option pricing model requires certain assumptions as of the date of grant. The weighted-average assumptions used for the last three fiscal years are as follows:

	2011	2010	2009
Expected term (years)(1)	7.4	7.2	7.3
Risk-free interest rate(2)	2.7%	2.9%	2.8%
Expected volatility(3)	79.7%	88.4%	93.1%
Expected dividend yield(4)	0%	0%	0%

(1) The expected term represents the period during which our stock-based awards are expected to be outstanding. In 2011 and 2010 we estimated this amount based on historical experience of similar awards, giving consideration to the contractual terms of the awards, vesting requirements, and expectation of future employee behavior, including post-vesting terminations.

(2) The risk-free interest rate is based on U.S. Treasury debt securities with maturities close to the expected term of the option as of the date of grant.

(3) Expected volatility is based on historical volatility over the most recent historical period equal to the length of the expected term of the option as of the date of grant.

(4) We have neither declared nor paid dividends on any share of common stock and we do not expect to do so in the foreseeable future.

At the end of each reporting period, we estimate forfeiture rates based on our historical experience within separate groups of employees and adjust the stock-based compensation expense accordingly.

A summary of our stock option activity and related information for the last three fiscal years is as follows:

	Outstanding Options			
	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value(1)
Balance at December 31, 2008	834,053	$ 23.20	6.6	$692,739
Granted	154,580	$ 17.00		
Exercised	(29,078)	$ 7.60		$281,979
Cancelled (forfeited and expired)	(33,474)	$ 19.30		
Balance at December 31, 2009	926,081	$ 22.80	6.2	$ 434,092
Granted	257,850	$ 10.70		
Exercised	(3,451)	$ 5.70		$ 13,418
Cancelled (forfeited and expired)	(82,239)	$ 20.50		
Balance at December 31, 2010	1,098,241	$ 20.20	6.1	$ 398,219
Granted	3,750	$ 7.30		
Exercised	(1,692)	$ 1.41		$ 11,293
Cancelled (forfeited and expired)	(224,801)	$ 20.22		
Balance at December 31, 2011	875,498	$ 20.13	5.5	$ —
Exercisable at December 31, 2011	723,303	$ 21.89	4.8	$ —
Vested and expected to vest(2)	848,001	$ 20.40	5.4	$ —

(1) Aggregate intrinsic value represents the value of the closing price per share of our common stock on the last trading day of the fiscal period in excess of the exercise price multiplied by the number of options outstanding or exercisable, except for the “Exercised” line, which uses the closing price on the date exercised.

(2) Number of shares include options vested and those expected to vest net of estimated forfeitures.

The estimated weighted average fair value per share of options granted was approximately $5.31 in 2011, $8.40 in 2010, and $13.70 in 2009, based on the assumptions in the Black-Scholes model discussed above. Total intrinsic value of options exercised at time of exercise was approximately $11,000 in 2011, $13,000 in 2010, and $282,000 in 2009.

The following is a summary of changes in unvested options:

Unvested Options	Number of Options	Weighted Average Grant Date Fair Value
Unvested options at December 31, 2010	336,516	$ 10.30
Granted	3,750	$ 5.31
Vested	(138,184)	$ 11.18
Cancelled	(49,890)	$ 10.07
Unvested options at December 31, 2011	152,192	$ 9.43

The estimated fair value of options vested were approximately $1,545,000 in 2011, $2,179,000 in 2010 and $2,606,000 in 2009.

The following table presents weighted average exercise price and remaining term information about significant option groups outstanding at December 31, 2011:

Options Outstanding at December 31, 2011				
Range of Exercise Prices	Number Outstanding	Weighted Average Remaining Term (Yrs.)	Weighted Average Exercise Price	Aggregate Intrinsic Value at December 31, 2011
Less than $10.00	38,859	1.8	$ 3.90	—
$10.00 - $19.99	398,919	6.6	$ 13.26	—
$20.00 - $29.99	332,420	5.0	$ 22.08	—
$30.00 - $39.99	46,800	4.0	$ 36.64	—
$40.00 - $49.99	5,500	3.7	$46.51	—
$50.00 - $59.99	53,000	3.7	$ 54.10	—
	875,498		$ 20.13	—

Vested Options Outstanding at December 31, 2011		
Range of Exercise Prices	Number Outstanding	Weighted Average Exercise Price
Less than $10.00	34,912	$ 3.51
$10.00 - $19.99	250,671	$ 14.09
$20.00 - $29.99	332,420	$ 22.08
$30.00 - $39.99	46,800	$ 36.64
$40.00 - $49.99	5,500	$ 46.51
$50.00 - $59.99	53,000	$ 54.09
	723,303	$ 21.89

Restricted Stock Units

We have granted restricted stock units (RSUs) to our directors and to certain employees which entitle the holders to receive shares of our common stock upon vesting of the RSUs. The fair value of restricted stock units granted are based upon the market price of the underlying common stock as if it were vested and issued on the date of grant.

A summary of our restricted stock unit activity for the year ended December 31, 2011 is as follows:

	Number of RSUs	Weighted Average Grant Date Fair Value
Outstanding at January 1, 2011	469,506	$ 12.30
Granted (1)	64,500	$ 5.48
Vested RSUs	(158,184)	$ 12.07
Cancelled	(18,280)	$ 13.41
Outstanding at December 31, 2011	357,542	$ 11.14

(1) 6,500 of these restricted stock units vest and convert into shares of our common stock after one year from the date of grant. 50,000 of these restricted stock units vest and convert into shares of our common stock over a three year period from the date of grant: one-third of the award will vest on each grant date anniversary following the grant. 8,000 of these restricted stock units will vest and convert into shares of our common stock subject to attainment of certain performance criteria and will be forfeited if not met.

Stock Appreciation Rights

In July 2006, we granted cash-settled Stock Appreciation Rights (SARs) to certain employees under the 2006 Equity Incentive Plan. The SARs give the holder the right, upon exercise, to the difference between the price per share of our common stock at the time of exercise and the exercise price of the SAR. The exercise price

of the SAR is equal to the market price of our common stock at the date of grant. The SARs vest 25% on the first anniversary of the grant date and 75% vest monthly over the remaining three-year service period. Compensation expense is based on the fair value of SARs which is calculated using the Black-Scholes option pricing model. The stock-based compensation expenses and liability are re-measured at each reporting date through the date of settlement. The compensation liability as re-measured at December 31, 2011 was not significant as the exercise price of the SARs was significantly below the market price of our common share.

The following is a summary of the changes in non-vested SARs for the last three fiscal years:

	2011		2010		2009	
	Number	Weighted Average Exercise Price	Number	Weighted Average Exercise Price	Number	Weighted Average Exercise Price
Outstanding at January 1,	135,409	$ 20.00	143,085	$ 20.00	143,085	$ 20.00
Granted	—	—	—	—	—	—
Exercised	—	—	—	—	—	—
Forfeited	(20,222)		(7,676)		—	
Outstanding at December 31,	115,187	$ 20.00	135,409	$ 20.00	143,085	$ 20.00
Exercisable at December 31,	115,187	$ 20.00	135,409	$ 20.00	143,085	$ 20.00

For the year ended December 31, 2010 and 2011, we re-measured the liability related to the SARs and reduced compensation expense by approximately $344,000 and $265,000, respectively. The total compensation expense related to SARs was approximately $108,000 in 2009. The resulting effect on net loss and net loss per share attributable to common stockholders is not likely to be representative of the effects in future periods, due to changes in the fair value calculation which is dependent on the stock price, volatility, interest and forfeiture rates, additional grants and subsequent periods of vesting. We will continue to recognize compensation cost each period, which will be the change in fair value from the previous period through the earlier date of settlement or forfeiture of the SARs.

Note 11. Wind-down and exit costs

Rhode Island

In October 1999, we relocated to California from Rhode Island and established a wind-down reserve for the estimated lease payments and operating costs of the Rhode Island facilities. Even though we intend to dispose of the facility at the earliest possible time, we cannot determine with certainty a fixed date by which such disposal will occur. In light of this uncertainty, we periodically re-evaluate and adjust the reserve. We consider various factors such as our lease payments through to the end of the lease, operating expenses, the current real estate market in Rhode Island, and estimated subtenant income based on actual and projected occupancy.

The components of our wind-down reserve at December 31 are as follows:

	2011	2010
Accrued wind-down reserve at beginning of period	$ 2,644,000	$ 3,572,000
Less actual expenses recorded against estimated reserve during the period	(1,248,000)	(1,219,000)
Additional expense recorded to revise estimated reserve at period-end	287,000	291,000
Revised reserve at period-end	1,683,000	2,644,000
Add deferred rent at period end	452,000	656,000
Total accrued wind-down expenses at period-end (current and non current)	$ 2,135,000	$ 3,300,000
Accrued wind-down expenses, current portion	$ 1,361,000	$ 1,311,000
Non current portion	774,000	1,989,000
Total accrued wind-down expenses	$ 2,135,000	$ 3,300,000

Australia

On April 1, 2009, as part of our acquisition of the SCS operations, we acquired certain operations near Melbourne, Australia. In order to reduce operating complexity and expenses, we made the decision to close our site in Australia and consolidate personnel and programs to our Cambridge, U.K. and Palo Alto, California sites. At June 30, 2009, we established a reserve of approximately $310,000 for the estimated costs to close down and exit our Australia operations. The reserve reflects the estimated cost to terminate our facility lease in Australia (which provided for an original termination date of December 31, 2010), employee termination benefits and other liabilities associated with the wind-down and relocation of our operations in Australia. As of December 31, 2010, the facility lease agreement has been terminated and our operations in Australia have been relocated to Cambridge, U.K. and Palo Alto, California. We recorded actual expenses, net of foreign currency translation changes of approximately $241,000 against this reserve. At December 31, 2010, we concluded that all costs related to the close down and exit of our Australia operations have been recorded against the reserve and we closed the reserve by crediting the remaining reserve balance of $69,000 to wind-down expense.

Note 12. Commitments and Contingencies

Leases

Bonds Payable

We entered into direct financing transactions with the State of Rhode Island and received proceeds from the issuance of industrial revenue bonds totaling $5,000,000 to finance the construction of Rhode Island's pilot manufacturing facility. The related lease agreements are structured such that lease payments fully fund all semiannual interest payments and annual principal payments through maturity in August 2014. Interest rate for the remaining bond series is 9.5%. The outstanding principal and interest owed at December 31, 2011 was approximately $615,000. The bonds contain certain restrictive covenants which limit, among other things, the payment of cash dividends and the sale of the related assets.

Operating leases

We entered into a fifteen-year lease agreement for a laboratory facility in Rhode Island in connection with a sale and leaseback arrangement in 1997. The lease term expires June 30, 2013. The lease contains escalating rent payments, which we recognize on a straight-line basis. At December 31, 2011, deferred rent expense was approximately $452,000 for this facility and is included as part of the wind-down accrual on the accompanying Consolidated Balance Sheets.

In September 2010, we entered into a two-year sublease agreement with Caliper Life Sciences, Inc., for approximately 13,200 square feet in a facility located in Mountain View, California. We will pay approximately $695,000 in aggregate as rent over the term of the lease. The lease contains escalating rent payments, which we recognize as operating lease expense on a straight-line basis. Deferred rent was approximately $3,000 as of December 31, 2011, and approximately $1,000 as of December 31, 2010.

In December 2010, we entered into a commercial lease agreement with BMR-Gateway Boulevard LLC ("BMR"), as landlord, for approximately 43,000 square feet of office and research space at BMR's Pacific Research Center in Newark, California. The initial term of the lease is approximately eleven and one-half years, and we relocated our corporate headquarters and core research activities from a facility located in Palo Alto, California, to this facility in July 2011. The lease for the Palo Alto facility expired on August 31, 2011, and a letter of credit for approximately $389,000, which served as a security deposit was transferred from our restricted cash account to our cash and cash equivalents account. We will pay approximately $17,989,000 in aggregate as rent over the term of the lease to BMR, which we recognize as operating lease expense on a straight-line basis. Deferred rent was approximately $1,301,000 as of December 31, 2011. As part of the lease, BMR has agreed to provide various financial allowances so that we can build initial and future laboratories, offices and other improvements, subject to customary terms and conditions relating to landlord-funded tenant improvements. As part of the lease, we have, until January 2013, an option to lease up to an additional 30,000 square feet in the building.

In January 2011, we amended the existing lease agreements of our wholly-owned subsidiary, Stem Cell Sciences (U.K.) Ltd, effectively reducing our leased space from approximately 5,000 square feet to approximately 1,900 square feet of office and lab space. We expect to pay approximately $60,000 as rental payments for 2012. StemCells, Inc. is the guarantor of Stem Cell Sciences (U.K.) Ltd's obligations under the existing lease.

On April 1, 2009, as part of our acquisition of the operations of SCS, we acquired operations near Melbourne, Australia. Our wholly-owned subsidiary, Stem Cell Sciences (Australia) Pty Ltd, is in a lease agreement with Monash University for approximately 1,938 square feet of office and lab space in Victoria, Australia. The lease term ended on December 31, 2010. In order to reduce operating complexity and expenses, we made the decision to close our site in Australia and consolidate personnel and programs to our Cambridge, U.K. and Palo Alto, California sites. We paid approximately $86,000 for an early termination of the lease which cost is included as part of our wind-down expenses in the accompanying Consolidated Financial Statements.

The table below summarizes the components of rent expense for the fiscal year ended December 31, as follows:

	2011	2010	2009
Rent expense	$ 4,193,433	$3,326,862	$3,215,424
Sublease income	(424,847)	(622,910)	(770,431)
Rent expense, net	$3,768,586	$2,703,952	$2,444,993

Future minimum payments under all leases and bonds payable at December 31, 2011 are as follows:

	Bonds Payable	Capital Leases	Operating Leases	Sublease Income
2012	$240,666	$ 18,329	$ 2,906,916	$ 390,496
2013	237,592	—	2,221,389	61,356
2014	136,852	—	1,540,429	—
2015	—	—	1,591,891	—
2016	—	—	1,638,207	—
Thereafter	—	—	9,959,613	—
Total minimum lease payments	615,110	18,329	$19,858,445	$451,852
Less amounts representing interest	92,610	350		
Present value of bonds payable and capital lease payments	522,500	17,979		
Less current maturities	191,250	17,979		
Bonds payable, less current maturities	$ 331,250	$ —		

Contingencies

In July 2006, we filed suit against Neuralstem, Inc. in the Federal District Court for the District of Maryland, alleging that Neuralstem's activities violate claims in four of the patents we exclusively licensed from NeuroSpheres, specifically U.S. Patent No. 6,294,346 (claiming the use of human neural stem cells for drug screening), U.S. Patent No. 7,101,709 (claiming the use of human neural stem cells for screening biological agents), U.S. Patent No. 5,851,832 (claiming methods for proliferating human neural stem cells), and U.S. Patent No. 6,497,872 (claiming methods for transplanting human neural stem cells). In May 2008, we filed a second patent infringement suit against Neuralstem and its two founders, Karl Johe and Richard Garr. In this suit, which we filed in the Federal District Court for the Northern District of California, we allege that Neuralstem's activities infringe claims in two patents we exclusively license from NeuroSpheres, specifically U.S. Patent No. 7,361,505 (claiming composition of matter of human neural stem cells derived from any source material) and U.S. Patent No. 7,115,418 (claiming methods for proliferating human neural stem cells). In addition, we allege

various state law causes of action against Neuralstem arising out of its repeated derogatory statements to the public about our patent portfolio. Also in May 2008, Neuralstem filed suit against us and NeuroSpheres in the Federal District Court for the District of Maryland seeking a declaratory judgment that the '505 and '418 patents are either invalid or are not infringed by Neuralstem and that Neuralstem has not violated California state law. In August 2008, the California court transferred our lawsuit against Neuralstem to Maryland for resolution on the merits. In July 2009, the Maryland District Court granted our motion to consolidate these two cases with the litigation we initiated against Neuralstem in 2006. Discovery is ongoing in these cases and we anticipate a trial date in late 2012 or early 2013.

In addition to the actions described above, in April 2008, we filed an opposition to Neuralstem's European Patent No. 0 915 968 (methods of isolating, propagating and differentiating CNS stem cells), because the claimed invention is believed by us to be unpatentable over prior art, including the patents exclusively licensed by us from NeuroSpheres. In December 2010, the European Patent Office ruled that all composition claims in Neuralstem's '968 European patent were invalid and unpatentable over prior art including several of the NeuroSpheres patents licensed to us. Neuralstem has appealed this decision.

Effective 2008, as part of an indemnification agreement with NeuroSpheres, we are entitled to offset all litigation costs incurred in this patent infringement suit, against amounts that would otherwise be owed to NeuroSpheres under our exclusive license agreements with NeuroSpheres, such as annual maintenance fees, milestones and royalty payments. Under the terms of our license agreements, we are required to make annual payments of $50,000 to NeuroSpheres, and we expect to make these annual payments through the remaining life of the patent which, at December 31, 2010, was approximately 14 years. We have therefore capitalized $700,000 (14 years at $50,000 per year) to offset litigation costs. The amount capitalized is not dependent on the achievement of any milestones or related to any other contingent payments which may become due under the arrangement. We will reduce this asset by $50,000 per year in lieu of the cash payments due to NeuroSpheres. As the $50,000 annual payments are fully creditable against royalties due to Neurospheres, we have classified the capitalized amount as prepaid royalties under "Other assets, non-current" on our accompanying Consolidated Balance Sheets. We have concluded that the estimated balance of $650,000, as of December 31, 2011, is a fair estimate and realizable against future milestone and royalty payments to NeuroSpheres, and that litigation costs incurred above this amount will be expensed as incurred. Management will reevaluate this estimate on a quarterly basis based on actual costs and other relevant factors.

Note 13. Warrant Liability

We use various option pricing models, such as the Black-Scholes option pricing model and the Monte Carlo simulation model, to estimate fair value of warrants issued. In using these models, we make certain assumptions about risk-free interest rates, dividend yields, volatility, expected term of the warrants and other assumptions. Risk-free interest rates are derived from the yield on U.S. Treasury debt securities. Dividend yields are based on our historical dividend payments, which have been zero to date. Volatility is estimated from the historical volatility of our common stock as traded on NASDAQ. The expected term of the warrants is based on the time to expiration of the warrants from the date of measurement. Share numbers and exercise prices have been adjusted for the 1-for-10 reverse stock split.

In November 2008, we sold 1,379,310 units to institutional investors at a price of $14.50 per unit, for gross proceeds of $20,000,000. The units, each of which consisted of one share of common stock and a warrant to purchase 0.75 shares of common stock at an exercise price of $23.00 per share, were offered as a registered direct offering under a shelf registration statement previously filed with, and declared effective by, the SEC. We received total proceeds, net of offering expenses and placement agency fees, of approximately $18,637,000. We recorded the fair value of the warrants to purchase 1,034,483 shares of our common stock as a liability. The fair value of the warrant liability will be revalued at the end of each reporting period, with the change in fair value of the warrant liability recorded as a gain or loss in our condensed consolidated statements of operations. The fair value of the warrants will continue to be classified as a liability until such time as the warrants are exercised, expire or an amendment of the warrant agreement renders these warrants to be no longer classified as a liability.

The assumptions used for the Black-Scholes option pricing model are as follows:

	To Calculate Fair Value of Warrant Liability at December 31,	
	2011	2010
Expected life (years)	2.4	3.4
Risk-free interest rate	0.3%	1.2%
Expected volatility	74.1%	83.6%
Expected dividend yield	0%	0%

	At December 31, 2011	At December 31, 2010	Change in Fair Value of Warrant Liability in Year 2011
Fair value of warrant liability	$ 2,224	$ 4,408,449	$ (4,406,225)

In November 2009, we sold 1,000,000 units to institutional investors at a price of $12.50 per unit, for gross proceeds of $12,500,000. The units, each of which consisted of one share of common stock and a warrant to purchase 0.40 shares of common stock at an exercise price of $15.00 per share, were offered as a registered direct offering under a shelf registration statement previously filed with, and declared effective by, the SEC. We received total proceeds, net of offering expenses and placement agency fees, of approximately $11,985,000. We recorded the fair value of the warrants to purchase 400,000 shares of our common stock as a liability. The fair value of the warrant liability will be revalued at the end of each reporting period, with the change in fair value of the warrant liability recorded as a gain or loss in our condensed consolidated statements of operations. The fair value of the warrants will continue to be classified as a liability until such time as the warrants are exercised, expire or an amendment of the warrant agreement renders these warrants to be no longer classified as a liability.

The assumptions used for the Black-Scholes option pricing model are as follows:

	To Calculate Fair Value of Warrant Liability at	
	December 31, 2011	December 31, 2010
Expected life (years)	3.3	4.3
Risk-free interest rate	0.5%	1.6%
Expected volatility	90.8%	77.5%
Expected dividend yield	0%	0%

	At December 31, 2011	At December 31, 2010	Change in Fair Value of Warrant Liability in Year 2011
Fair value of warrant liability	$ 28,971	$ 2,263,480	$ (2,234,509)

In December 2011, we raised gross proceeds of $10,000,000 through a public offering of 8,000,000 Units and 8,000,000 Series B warrants. The combination of Units and Series B warrants were sold at a public offering price of $1.25 per Unit. Each Series B warrant gives the holder the right to purchase one Unit at an exercise price of $1.25 per Unit and is exercisable until May 2, 2012, the 90th trading day after the date of issuance. Each Unit consists of one share of our common stock and one Series A warrant. Each Series A warrant gives the holder the right to purchase one share of our common stock at an initial exercise price of $1.40 per share. The Series A warrants are immediately exercisable upon issuance and will expire on the fifth anniversary of the closing date of the initial financing transaction in December 2011. The shares were offered under our effective shelf registration statement previously filed with the SEC.

The fair value of the warrant liability will be revalued at the end of each reporting period, with the change in fair value of the warrant liability recorded as a gain or loss in our condensed consolidated statements of

operations. The fair value of the warrants will continue to be classified as a liability until such time as the warrants are exercised, expire or an amendment of the warrant agreement renders these warrants to be no longer classified as a liability.

The assumptions used for the Monte Carlo simulation model to value the Series A and Series B Warrants are as follows:

Risk-free interest rate per year	0.9%
Expected volatility per year	82.3%
Expected dividend yield	0%
Expected life for Series A = 5 years and for Series B = 0.4 years	

The use of the Monte Carlo simulation model requires the input of additional subjective assumptions including the progress of our R&D programs and its affect on potential future financings.

	At December 31, 2011
Fair value of warrant liability — Series A	$ 3,790,160
Fair value of warrant liability — Series B	$ 2,220,960

Note 14. Common Stock

We have neither declared nor paid dividends on any share of common stock and do not expect to do so in the foreseeable future.

We effected a 1-for-10 reverse stock split on July 6, 2011. As a result of the reverse stock split, the outstanding shares of common stock issued and outstanding were reduced from approximately 139 million to 13.9 million. Concurrent with the reverse stock split, we reduced the authorized number of common shares from 250 million to 75 million. The reverse stock split proportionately reduced all issued and outstanding shares of our common stock, as well as common stock underlying stock options, warrants and other common stock based equity grants outstanding immediately prior to the effectiveness of the reverse stock split. The exercise price on outstanding equity based-grants was proportionately increased, while the number of shares available under our equity-based plans was proportionately reduced. Share and per share data (except par value) for the periods presented reflect the effects of this reverse stock split. References to numbers of shares of common stock and per share data in the accompanying financial statements and notes thereto have been adjusted to reflect the reverse stock split on a retroactive basis.

Sale of common stock

Major transactions involving our common stock for the last three years include the following:

- In December 2011, we raised gross proceeds of $10 million through a public offering of 8,000,000 Units and 8,000,000 Series B warrants. The combination of Units and Series B warrants were sold at a public offering price of $1.25 per Unit. Each Series B warrant gives the holder the right to purchase one Unit at an exercise price of $1.25 per Unit and is exercisable until May 2, 2012, the 90th trading day after the date of issuance. Each Unit consists of one share of our common stock and one Series A warrant. Each Series A warrant gives the holder the right to purchase one share of our common stock at an initial exercise price of $1.40 per share. The Series A warrants are immediately exercisable upon issuance and will expire on the fifth anniversary of the closing date of the initial financing transaction in December 2011. The shares were offered under our effective shelf registration statement previously filed with the SEC.
- In January 2011, we sold 1,000,000 shares of our common stock to selected institutional investors at a price of $10.00 per share. We received net proceeds, after deducting offering expenses and fees, of approximately $9,400,000. The investors were also granted an option to purchase an additional 600,000

shares at $10.00 per share. The option was not exercised and expired on February 18, 2011. The shares were offered under a shelf registration previously filed with, and declared effective by, the SEC.

- In 2011, we sold a total of 525,116 shares of our common stock under a sales agreement entered into in June 2009 ("2009 sales agreement") at an average price per share of $2.47 for gross proceeds of approximately $1,297,000. Under the terms of the 2009 sales agreement, we may sell up to $30,000,000 of our common stock, from time to time through a sales agent. The sales agent is paid compensation equal to 3.0% of gross proceeds pursuant to the terms of the agreement. The shares were offered under a shelf registration previously filed with, and declared effective by, the SEC.
- In 2010, we sold a total of 147,520 shares of our common stock under the 2009 sales agreement at an average price per share of $11.60 for gross proceeds of approximately $1,705,000. The sales agent is paid compensation equal to 3.0% of the gross proceeds pursuant to the terms of the agreement. The shares were offered under a shelf registration previously filed with, and declared effective by, the SEC.
- On June 29, 2010, we sold 700,000 shares of our common stock to an institutional investor, at a price of $8.65 per share. We received net proceeds, after deducting offering expenses and fees, of approximately $5,700,000. No warrants were issued in this transaction. The shares were offered under a shelf registration previously filed with, and declared effective by, the SEC. As part of the purchase agreement, the institutional investor agreed to purchase an additional 500,000 shares of common stock approximately 12 weeks after the initial sale, at our option and at a purchase price to be calculated using the then-current trading price. We decided not to sell these additional shares and on September 20, 2010, we terminated the purchase agreement.
- In November 2009, we sold 1,000,000 units to institutional investors at a price of $12.50 per unit, for gross proceeds of $12,500,000. The units, each of which consisted of one share of common stock and a warrant to purchase 0.4 shares of common stock at an exercise price of $15.00 per share. We received total proceeds net of offering expenses and placement agency fees of approximately $11,985,000. The shares were offered under a shelf registration previously filed with, and declared effective by, the SEC.
- In 2009, we sold a total of 183,000 shares of our common stock under the 2009 sales agreement at an average price per share of $18.00 for gross proceeds of approximately $3,291,000. The shares were offered under a shelf registration previously filed with, and declared effective by, the SEC.
- On April 1, 2009, we acquired the operations of SCS. As consideration, we issued to SCS 265,000 shares of common stock and waived certain commitments of SCS to repay approximately $709,000 in principal and accrued interest owed to us. The closing price of our common stock was $16.70 per share on April 1, 2009.

Stock Issued For Technology Licenses

Under license agreements with NeuroSpheres, Ltd., we obtained an exclusive patent license covering all uses of certain neural stem cell technology. We made up-front payments to NeuroSpheres of 6,500 shares of our common stock and $50,000, and will make additional cash payments as stated milestones are achieved. Effective in 2004, we began making annual $50,000 payments, creditable against certain royalties. Effective 2008, as part of an indemnification agreement with NeuroSpheres, we offset the annual $50,000 obligation against litigation costs incurred under that agreement. The estimated balance for future offsets is included under "Other assets, non-current" on our accompanying Consolidated Balance Sheets. We have concluded that the estimated balance of $650,000 as of December 31, 2011 is a fair estimate and realizable against future milestone and royalty payments to NeuroSpheres, and that litigation costs incurred after December 31, 2010 will be expensed as incurred. Management will reevaluate this estimate on a quarterly basis based on actual costs and other relevant factors.

Pursuant to the terms of a license agreement with the California Institute of Technology (Cal Tech) and our acquisition of its wholly owned subsidiary, StemCells California, we issued 14,513 shares of common stock to

Cal Tech. We issued an additional 1,280 shares of common stock to Cal Tech with a market value of approximately $40,000 in May 2000, upon execution of an amendment adding four families of patent applications to the license agreement. In August 2002, we acquired an additional license from Cal Tech for a different technology, pursuant to which we issued 2,754 shares of our common stock with a market value of approximately $35,000. Under terms of the license agreement with the Cal Tech, annual fees of $5,000 were due on each of two patents to which we hold a license from Cal Tech, payable in cash or common stock at our choice. We elected to pay the fees in stock and issued 590 shares in 2009, 692 shares in 2008, 387 shares in 2007 and 385 shares in 2006. In September 2010, we terminated all our licensing agreements with Cal Tech.

Common Stock Reserved

We reserved the following shares of common stock for the exercise of options, warrants and other contingent issuances of common stock, as of December 31, 2011:

Shares reserved for share based compensation	2,273,006
Shares reserved for warrants related to financing transactions	25,434,483
Shares reserved for possible future issuances under an effective shelf registration	3,263,346
Total	30,970,835

Note 15. Deferred Revenue

Deferred Revenue related to Licensing Agreement

In August 2006, we entered an agreement with Stem Cell Therapeutics (SCT), a Canadian corporation, granting it a non-exclusive, royalty-bearing license to use several of our patents for treating specified diseases of the central nervous system; the grant does not include any rights to cell transplantation. SCT granted StemCells a royalty-free non-exclusive license to certain of its patents for research and development and a royalty-bearing non-exclusive for certain commercial purposes. SCT paid an up-front license fee; the license also provides for other payments including annual maintenance, milestones, and royalties. The up-front license fee is being amortized and recognized as revenue over a period of 12 years. At December 31, 2011, the unamortized amount of deferred revenue related to this agreement was approximately $140,000.

Note 16. 401(k) Plan

Our 401(k) Plan covers substantially all of our employees. Participants in the plan are permitted to contribute a fixed percentage of their total annual cash compensation to the plan (subject to the maximum employee contribution defined by law). We match 50% of employee contributions, up to a maximum of 6% of each employee's eligible compensation in the form of shares of common stock. We recorded an expense of $165,000 in 2011, $191,000 in 2010, and $168,000 in 2009 for our contributions under our 401(k) Plan.

Note 17. The Qualifying Therapeutic Discovery Project Grant

In October 2010, we were awarded four cash grants totaling approximately $978,000, in aggregate, for work related to both our CNS and Liver Programs. These grants were certified under the federal government's Qualifying Therapeutic Discovery Projects Program, which was created by Congress as part of the Patient Protection and Affordable Care Act of 2010. We were granted the maximum award of $244,479 for each of our four applications. The credit is a tax benefit targeted to therapeutic discovery projects that show a reasonable potential to:

- Result in new therapies to treat areas of unmet medical need or prevent, detect or treat chronic or acute diseases and conditions,
- reduce the long-term growth of health care costs in the United States, or
- significantly advance the goal of curing cancer within 30 years.

Allocation of the credit takes into consideration which projects show the greatest potential to create and sustain high-quality, high-paying U.S. jobs and to advance U.S. competitiveness in life, biological and medical sciences.

We received the funds in full in December 2010, and recognized these grants as "Qualifying therapeutic discovery project grant" under "Other income, (expense), net" in the accompanying Consolidated Statements of Operations.

Note 18. Income Taxes

Loss before income taxes is attributed to the following geographic locations for the years ended December 31,

	2011	2010
United States	$19,677,292	$ 23,445,403
Foreign	1,651,244	1,798,148
Total loss before taxes	$ 21,328,536	$25,243,551

We follow authoritative guidance regarding accounting for uncertainty in income taxes, which prescribes a recognition threshold a tax position is required to meet before being recognized in the financial statements. As of December 31, 2011 and 2010, we have not recorded any unrecognized tax benefits. Deferred income taxes reflect the tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of our deferred tax assets and liabilities at December 31 are as follows:

	2011	2010
Deferred tax assets:		
Capitalized research and development costs	$ 53,565,000	$ 48,048,000
Net operating losses	53,065,000	51,051,000
Research and development credits	8,038,000	7,816,000
Accrued wind down cost	630,000	994,000
Stock-based compensation	512,000	688,000
Impaired asset	—	312,000
Capital loss carryover	596,000	318,000
Fixed assets	458,000	370,000
Other	731,000	397,000
	117,595,000	109,994,000
Valuation allowance	(117,181,000)	(109,310,000)
Total deferred tax assets	$ 414,000	$ 684,000
Deferred tax liability:		
Intangible assets	(414,000)	(684,000)
Total deferred tax liability	$ (414,000)	$ (684,000)
Net deferred tax assets	$ —	$ —

Realization of deferred tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain. Accordingly, the net deferred tax assets have been fully offset by a valuation allowance. The valuation allowance increased by approximately $7,871,000 in 2011, $7,030,000 in 2010, and $11,156,000 in 2009.

As of December 31, 2011, we had the following:

- Net operating loss carry forwards for federal income tax purposes of approximately $141,496,000 which expire in the years 2012 through 2031.
- Federal research and development tax credits of approximately $6,687,000 which expire in the years 2012 through 2031.
- Net operating loss carry forwards for state income tax purposes of approximately $45,951,000 which expire in the years 2012 through 2031.
- State research and development tax credits of approximately $5,091,000 ($3,360,000 net of federal tax effect) which do not expire.
- Net operating loss carry forwards in foreign jurisdictions of approximately $12,202,000 which do not expire.
- Capital loss carry forwards for federal and state income tax purposes of $1,592,000 which expire in the years 2014 through 2016.

Utilization of the federal and state net operating loss and federal and state research and development tax credit carry forwards may be subject to annual limitations due to the ownership percentage change provisions of the Internal Revenue Code of 1986 and similar state provisions. The annual limitations may result in the inability to fully offset future annual taxable income and could result in the expiration of the net operating loss carry forwards before utilization. Utilization of foreign net operating loss carry forwards may be limited or disallowed under similar foreign income tax provisions.

The effective tax rate as a percentage of income before income taxes differs from the statutory federal income tax rate (when applied to income before income taxes) for the years ended December 31 as follows:

	2011	2010	2009
Statutory federal income tax (benefit) rate	(34)%	(34)%	(34)%
State income tax (benefit) rate	(3.4)	(3.6)	(6)
Increase resulting from:			
Expenses not deductible for taxes	(6.7)	(0.4)	4.9
Increase in valuation allowance	44.1	38.0	35.1
Effective tax (benefit) rate	0%	0%	0%

We did not have any unrecognized tax benefits at December 31, 2011. Our policy is to recognize interest and penalties related to income tax matters in income tax expense. Because we have no tax liabilities, no tax-related interest and penalties have been expensed in our consolidated statements of operations during 2011 or accrued as a liability in our consolidated balance sheets at December 31, 2011. We do not anticipate any significant changes to total unrecognized tax benefits as a result of settlement of audits or the expiration of statute of limitations within the next twelve months.

We file U.S. federal income tax returns, as well as tax returns with the State of California and the State of Rhode Island. Due to the carry forward of unutilized net operating losses and research and development credits, our federal tax returns from 1997 forward remain subject to examination by the Internal Revenue Service, and our State of California tax returns from 2001 forward and our State of Rhode Island tax returns from 2007 forward remain subject to examination by the respective state tax authorities. We file income tax returns in various foreign jurisdictions. Tax years from 2007 forward remain subject to examination by the appropriate foreign governmental agencies.

Note 19. Subsequent Events

As of March 2, 2012, a total of 750,000 Series B warrants issued as part of our December 2011 financing were exercised to purchase an aggregate of 750,000 units at a price of $1.25 per unit. Each unit consists of (i) one share of our common stock and (ii) one Series A warrant to purchase one share of common stock. The Series A warrants are immediately exercisable on issuance at an initial exercise price of $1.40 per share and expire on the fifth anniversary of the closing date of the initial financing transaction in December 2011. As a result of these exercises, we issued 750,000 shares of our common stock and 750,000 Series A warrants and received gross proceeds of $938,000.

*****

QUARTERLY FINANCIAL DATA (unaudited)

	2011 Quarter Ended			
	December 31	September 30	June 30	March 31
	(In thousands, except per share amounts)			
Total revenue	$ 541	$ 224	$ 234	$ 221
Cost of Sales	47	61	52	55
Operating expenses	7,807	6,326	7,272	7,677
Other income (expense), net(1)	101	1,829	3,055	1,762
Net loss	(7,212)	(4,334)	(4,035)	(5,747)
Basic and diluted net loss per share	$ (0.47)	$ (0.31)	$ (0.29)	$ (0.42)

	2010 Quarter Ended			
	December 31	September 30	June 30	March 31
	(In thousands, except per share amounts)			
Total revenue	$ 700	$ 253	$ 244	$ 230
Cost of Sales	63	36	25	44
Operating expenses	8,343	7,218	7,270	7,787
Other income (expense), net(1)	(1,251)	1,449	2441	1,477
Net loss	(8,957)	(5,552)	(4,610)	(6,124)
Basic and diluted net loss per share	$ (0.70)	$ (0.44)	$ (0.38)	$ (0.51)

(1) Other expense, net, for 2011 and 2010, includes the change in fair value of our warrant liability — see Note 13. Other expense, net, for 2010 includes $977,917 received as a grant under the federal government's Qualifying Therapeutic Discovery Projects Program — see Note 17.

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

None.

Item 9A. *CONTROLS AND PROCEDURES*

Evaluation of Disclosure Controls and Procedures

The Company's management, with the participation of its chief executive officer and chief financial officer, evaluated the effectiveness of the design and operation of its disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) as of the end of the period covered by this annual report. Based on this evaluation, the Company's principal executive officer and principal financial officer concluded that these disclosure controls and procedures are effective.

Changes in Internal Controls

There have been no changes in the Company's internal control over financial reporting during the quarter ended December 31, 2011, that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting

Management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting. The Company's management, including its principal executive officer and principal financial officer, assessed the effectiveness of its internal control over financial reporting based on the framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The evaluation of the

design and operating effectiveness of internal control over financial reporting include among others 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 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
- 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.

During the fiscal year 2011, the Company periodically tested the design and operating effectiveness of its internal control over financial reporting. Among other matters, the Company sought in its evaluation to determine whether there were any "significant deficiencies" or "material weakness" in its internal control over financial reporting, or whether it had identified any acts of fraud involving management or other employees.

Based on the above evaluation, the Company's chief executive officer and chief financial officer have concluded that as of December 31, 2011, 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.

The Company's internal control over financial reporting as of December 31, 2011 has been audited by Grant Thornton LLP, an independent registered public accounting firm, as stated in their report below.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Board of Directors and Stockholders
StemCells, Inc.

We have audited StemCells, Inc. (a Delaware corporation) and subsidiaries' (collectively, 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 included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

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

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

In our opinion, StemCells, Inc. and subsidiaries maintained, in all material respects, effective internal control over financial reporting as of December 31, 2011 based on criteria established in *Internal Control — Integrated Framework* issued by COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of StemCells, Inc. and subsidiaries as of December 31, 2011 and 2010, and the related consolidated statements of operations, changes in stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2011 and our report dated March 14, 2012 expressed an unqualified opinion thereon.

/s/ GRANT THORNTON LLP

San Francisco, California
March 14, 2012

Item 9B. ***Other Information***

None

PART III

Item 10. ***DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE***

Executive Officers

Below are the name, age and principal occupations for the last five years of each executive officer of StemCells, Inc., as of February 28, 2012. All such persons have been elected to serve until their successors are elected and qualified or until their earlier resignation or removal.

Martin M. McGlynn, President and Chief Executive Officer	65	Martin M. McGlynn joined the company on January 2001, when he was appointed President and Chief Executive Officer of the company and of its wholly-owned subsidiary, StemCells California, Inc. He was elected to the Board of Directors in February 2001.
Ann Tsukamoto, Ph.D. Executive Vice President, Research and Development	59	Ann Tsukamoto, Ph.D., joined the company in November 1997 as Senior Director of Scientific Operations; was appointed Vice President, Scientific Operations in June 1998; Vice President, Research and Development in February 2002; and Chief Operating Officer, with responsibility for the company's research and development efforts, in November 2006. In October 2008, Dr. Tsukamoto was appointed to the newly created position of Executive Vice President, Research and Development with responsibility for the Company's scientific and clinical development programs.
Rodney K.B. Young, Chief Financial Officer and Vice President, Finance and Administration	49	Rodney K.B. Young joined the company in September 2005 as Chief Financial Officer and Vice President, Finance. In November 2006 he became CFO and Vice President, Finance and Administration. He is responsible for functions that include Finance, Information Technology and Investor Relations. From 2003 to 2005, Mr. Young was Chief Financial Officer and a director of Extropy Pharmaceuticals, Inc., a private biopharmaceutical company focused on developing drugs for pediatric indications.
Stewart Craig, Ph.D. Senior Vice President, Development and Operations	50	Stewart Craig, Ph.D., joined the company in September 2008 with responsibilities for Development, Manufacturing, Regulatory, Quality Systems and Facilities. From 2005 to 2008, Dr. Craig was Chief Technology Officer and Vice President of Progenitor Cell Therapy, a contract services provider for research, development, manufacture and commercialization of cell-based therapies, prior to which he has held executive positions at Xcyte Therapies, Osiris Therapeutics and SyStemix.

Kenneth Stratton General Counsel	43	Kenneth Stratton joined the company in February 2007 as General Counsel, with responsibility for corporate compliance and legal affairs. In March 2008, he assumed responsibilities for the Human Resources function. Prior to StemCells, Mr. Stratton served as Deputy General Counsel for Threshold Pharmaceuticals and as Senior Legal Counsel for Medtronic's Vascular business unit.

Directors

Below are the name, age and principal occupations for the last five years of each Director of StemCells, Inc., as of February 28, 2012. Directors are elected to staggered three year terms.

Eric H. Bjerkholt	52	Eric H. Bjerkholt was elected to the Board of Directors in March 2004. Mr. Bjerkholt joined Sunesis Pharmaceuticals, Inc., in 2004 as Senior Vice President and Chief Financial Officer. Since February 2007, he has served as Senior Vice President, Corporate Development and Finance, and Chief Financial Officer. From 2002 to 2004, Mr. Bjerkholt was Senior Vice President and Chief Financial Officer at IntraBiotics Pharmaceuticals, Inc.
R. Scott Greer	53	Mr. Greer was elected to the Board of Directors in June 2010. He is currently a Principal and Managing Director of Numenor Ventures LLC which he founded in 2002.
Ricardo B. Levy, Ph.D.	67	Ricardo B. Levy, Ph.D. was elected to the Board of Directors in September 2001. He currently serves on several boards of directors.
Martin M. McGlynn	65	Martin M. McGlynn was elected to the Board of Directors in February 2001. He is President and Chief Executive Officer of the Company, a position he has held since January 2001.
Roger Perlmutter, M.D., Ph.D.	59	Roger M. Perlmutter, M.D., Ph.D., was elected to the Board of Directors in December 2000. Until recently he was Executive Vice President, Research and Development, of Amgen, Inc.
John J. Schwartz, Ph.D.	77	John J. Schwartz, Ph.D., was elected to the Board of Directors in December 1998 and was elected Chairman of the Board at the same time. He is currently President of Quantum Strategies Management Company.

Irving Weissman, M.D.	72	Irving L. Weissman, M.D., was elected to the Board of Directors in September 1997. He is the Virginia and Daniel K. Ludwig Professor of Cancer Research, Professor of Pathology and Professor of Developmental Biology at Stanford. Director, Institute of Stem Cell Biology and Regenerative Medicine,

Certain other information required by this Item regarding our officers, directors, and corporate governance is incorporated herein by reference to the information appearing under the headings "Information About Our Directors" and "Information About Ownership of Our Common Stock" in our definitive proxy statement to be filed with the Securities and Exchange Commission within 120 days of December 31, 2011 (the "2012 Proxy Statement").

Item 11. *EXECUTIVE COMPENSATION*

The information required by this Item is incorporated by reference from Item 5 of this Annual Report on Form 10-K and our Proxy Statement for the 2012 Annual Meeting of Stockholders.

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

The information required by this Item is incorporated by reference from Item 5 of this Annual Report on Form 10-K and from our Proxy Statement for the 2012 Annual Meeting of Stockholders.

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

The information required by this Item is incorporated by reference from our Proxy Statement for the 2012 Annual Meeting of Stockholders.

Item 14. *PRINCIPAL ACCOUNTING FEES AND SERVICES*

The information required by this Item is incorporated by reference from our Proxy Statement for the 2012. Annual Meeting of Stockholders.

PART IV

Item 15. ***EXHIBITS AND FINANCIAL STATEMENT SCHEDULES***

(a) The following documents are included as part of this Annual Report on Form 10-K.

(1) Financial Statements.

The financial statements filed as part of this Report are listed and indexed under Item 8 above.

(2) Financial Statement Schedules.

Schedules are not included herein because they are not applicable or the required information appears in the Financial Statements or Notes thereto.

(3) Exhibits.

The documents set forth below are filed herewith or incorporated by reference to the location indicated.

Exhibit No.	Title or Description
3.1	Restated Certificate of Incorporation of the Registrant(1)
3.2	Amended and Restated By-Laws of the Registrant(2)
4.1	Specimen Common Stock Certificate(3)
4.2	Form of Warrant Certificate issued to certain purchasers of the Registrant's common stock in November 2008(4)
4.3	Form of Warrant Certificate issued to certain purchasers of the Registrant's common stock in November 2009(5)
4.4	Form of Series A Warrant issued to certain purchasers of the Registrant's common stock in December 2011(6)
4.5	Form of Series B Warrant issued to certain purchasers of the Registrant's common stock in December 2011(6)
10.1	Form of at-will Employment Agreement between the Registrant and most of its employees(7)
10.2	Form of Agreement for Consulting Services between the Registrant and the members of its Scientific Advisory Board(8)
10.3 #	Cytotherapeutics, Inc. 1992 Equity Incentive Plan(8)
10.4 #	1992 Stock Option Plan for Non-Employee Directors(8)
10.5	Lease Agreement, dated as of August 1, 1992, between the Registrant and the Rhode Island Industrial Facilities Corporation(9)
10.6	First Amendment to Lease Agreement, dated as of September 15, 1994, between Registrant and the Rhode Island Industrial Facilities Corporation(9)
10.7	Lease Agreement, dated as of November 21, 1997, by and between Hub RI Properties Trust, as Landlord, and CytoTherapeutics, Inc., as Tenant(10)
10.8	Consulting Agreement, dated as of September 25, 1997, between Dr. Irving Weissman and the Registrant(11)
10.9	StemCells, Inc. 1996 Stock Option Plan(12)
10.10 #	1997 StemCells Research Stock Option Plan (the "1997 Plan")(12)

Exhibit No.	Title or Description
10.11 #	Form of Performance-Based Incentive Option Agreement issued under the 1997 Plan(12)
10.12	License Agreement, dated April 1, 1997, by and among Registrant, NeuroSpheres Ltd. and NeuroSpheres Holdings Ltd. (the "1997 NeuroSpheres license agreement")(13)
10.13 &	License Agreement, dated as of October 30, 2000, between the Registrant and NeuroSpheres Holdings Ltd. (the "2000 NeuroSpheres license agreement")(14)
10.14 #	Letter Agreement, dated January 2, 2001, between the Registrant and Martin McGlynn(15)
10.15 #	2001 Equity Incentive Plan(16)
10.16 #	StemCells, Inc. Amended and Restated 2004 Equity Incentive Plan(17)
10.17 &	License Agreement, dated as of July 1, 2005, between the Registrant and ReNeuron Limited(18)
10.18 #	Letter Agreement, effective as of September 6, 2005, between the Registrant and Rodney K.B. Young(19)
10.19	Side Letter, dated October 30, 2000, between the Registrant and NeuroSpheres Ltd. regarding the 1997 and 2000 NeuroSpheres license agreements(14)
10.20	Side Letter, dated March 21, 2002, between the Registrant and NeuroSpheres Ltd. and NeuroSpheres Holdings Ltd. regarding the 2000 NeuroSpheres license agreement(21)
10.21	Side Letter, dated July 2, 2003, between the Registrant and NeuroSpheres Ltd. and NeuroSpheres Holdings Ltd. regarding the 2000 NeuroSpheres license agreement(21)
10.22 &	Side Letter, dated March 9, 2005, between the Registrant and NeuroSpheres Ltd. and NeuroSpheres Holdings Ltd. regarding the 2000 NeuroSpheres license agreement(21)
10.23	Indemnification Agreement, dated July 9, 2008, between the Registrant and NeuroSpheres Holdings, Ltd.(20)
10.24 #	Letter Agreement, effective as of February 2, 1998, between the Registrant and Ann Tsukamoto(21)
10.25 #	Memorandum of Agreement, effective as of July 17, 2000, between the Registrant and Ann Tsukamoto(21)
10.26 #	Letter Agreement, effective as of July 24, 2008, between the Registrant and Stewart Craig(21)
10.27 #	Letter Agreement, effective as of February 2, 2007, between the Registrant and Kenneth B. Stratton(21)
10.28 #	Letter Agreement, effective as of August 6, 2009, between the Registrant and Kenneth B. Stratton(21)
10.29 &	License Agreement, dated as of January 31, 2006, between Stem Cell Sciences (Australia) Pty Limited and The University of Edinburgh(21)
10.30	Lease agreement, dated December 2, 2010, between the Registrant and BMR-Gateway Boulevard LLC(22)
10.31#*	StemCells, Inc. Director's Fee Plan
21	Subsidiaries of the Registrant(21)
23.1*	Consent of Grant Thornton, LLP, Independent Registered Public Accounting Firm
31.1*	Certification Pursuant to Securities Exchange Act Rule 13(a)-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (Martin McGlynn, Chief Executive Officer)

Exhibit No.	Title or Description
31.2*	Certification Pursuant to Securities Exchange Act Rule 13(a)-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (Rodney K.B. Young, Chief Financial Officer)
32.1*	Certification Pursuant to 18 U.S.C. Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Martin McGlynn, Chief Executive Officer)
32.2*	Certification Pursuant to 18 U.S.C. Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Rodney K.B. Young, Chief Financial Officer)
101.1	The following materials from the Registrant's Annual Report on Form 10-K for the year ended December 31, 2012 are formatted in XBRL (eXtensible Business Reporting Language): (i) the Condensed Consolidated Balance Sheets, (ii) the Condensed Consolidated Statements of Operations, (iii) the Condensed Consolidated Statements of Cash Flows, and (iv) Notes to Condensed Consolidated Financial Statements.(%)

# Indicates management compensatory plan, contract or arrangement.
& Confidential treatment requested as to certain portions. Material has been omitted and separately filed with the Commission.
% Pursuant to Rule 406T of Regulation S-T, the XBRL files on Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.
* Filed herewith.

(1) Incorporated by reference to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2006 and filed on March 15, 2007.
(2) Incorporated by reference to the Registrant's current report on Form 8-K filed on May 7, 2007.
(3) Incorporated by reference to the Registrant's Registration Statement on Form S-3, File No. 333-151891.
(4) Incorporated by reference to the Registrant's current report on Form 8-K filed on November 12, 2008.
(5) Incorporated by reference to the Registrant's current report on Form 8-K filed on October 28, 2009.
(6) Incorporated by reference to the Registrant's current report on Form 8-K filed on December 16, 2011.
(7) Incorporated by reference to the Registrant's annual report on Form 10-K for the fiscal year ended December 31, 2008 and filed on March 16, 2009.
(8) Incorporated by reference to the Registrant's Registration Statement on Form S-1, File No. 33-45739.
(9) Incorporated by reference to the Registrant's Registration Statement on Form S-1, File No. 33-85494.
(10) Incorporated by reference to the Registrant's annual report on Form 10-K for the fiscal year ended December 31, 1997 and filed on March 30, 1998.
(11) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1997 and filed on November 14, 1997.
(12) Incorporated by reference to the Registrant's Registration Statement on Form S-8, File No. 333-37313.
(13) Incorporated by reference to the Registrant's Annual Report on Form 10-K/A for the fiscal year ended December 31, 2005 and filed on March 22, 2006.
(14) Incorporated by reference to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2000 and filed on April 2, 2001.
(15) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2009.
(16) Incorporated by reference to the Registrant's definitive proxy statement filed May 1, 2001.
(17) Incorporated by reference to the Registrants Registration Statement on Form S-8, File No. 333-118263.
(18) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2005.
(19) Incorporated by reference to the Registrant's current report on Form 8-K filed on September 7, 2005.
(20) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2008.

(21) Incorporated by reference to the Registrant's annual report on Form 10-K for the fiscal year ended December 31, 2009 and filed on March 11, 2010.
(22) Incorporated by reference to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2010 and filed on March 11, 2011.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

STEMCELLS, INC.

By: /s/ MARTIN MCGLYNN
Martin McGlynn
PRESIDENT AND CHIEF
EXECUTIVE OFFICER

Dated: March 14, 2012

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

Signature	Capacity	Date
/s/ MARTIN MCGLYNN Martin McGlynn	President and Chief Executive Officer and Director (principal executive officer)	March 14, 2012
/s/ RODNEY K.B. YOUNG Rodney K.B. Young	Chief Financial Officer (principal financial officer)	March 14, 2012
/s/ GEORGE KOSHY George Koshy	Chief Accounting Officer (principal accounting officer)	March 14, 2012
/s/ ERIC BJERKHOLT Eric Bjerkholt	Director	March 14, 2012
/s/ R.SCOTT GREER R.Scott Greer	Director	March 14, 2012
/s/ RICARDO B. LEVY, PH.D. Ricardo B. Levy, Ph.D.	Director	March 14, 2012
/s/ ROGER M. PERLMUTTER, M.D. Roger M. Perlmutter, M.D.	Director	March 14, 2012
/s/ JOHN J. SCHWARTZ, PH. D. John J. Schwartz, Ph. D.	Director, Chairman of the Board	March 14, 2012
/s/ IRVING L. WEISSMAN, M.D. Irving L. Weissman, M.D.	Director	March 14, 2012

Exhibit Index

Exhibit No.	Title or Description
3.1	Restated Certificate of Incorporation of the Registrant(1)
3.2	Amended and Restated By-Laws of the Registrant(2)
4.1	Specimen Common Stock Certificate(3)
4.2	Form of Warrant Certificate issued to certain purchasers of the Registrant's common stock in November 2008(4)
4.3	Form of Warrant Certificate issued to certain purchasers of the Registrant's common stock in November 2009(5)
4.4	Form of Series A Warrant issued to certain purchasers of the Registrant's common stock in December 2011(6)
4.5	Form of Series B Warrant issued to certain purchasers of the Registrant's common stock in December 2011(6)
10.1	Form of at-will Employment Agreement between the Registrant and most of its employees(7)
10.2	Form of Agreement for Consulting Services between the Registrant and the members of its Scientific Advisory Board(8)
10.3 #	Cytotherapeutics, Inc. 1992 Equity Incentive Plan(8)
10.4 #	1992 Stock Option Plan for Non-Employee Directors(8)
10.5	Lease Agreement, dated as of August 1, 1992, between the Registrant and the Rhode Island Industrial Facilities Corporation(9)
10.6	First Amendment to Lease Agreement, dated as of September 15, 1994, between Registrant and the Rhode Island Industrial Facilities Corporation(9)
10.7	Lease Agreement, dated as of November 21, 1997, by and between Hub RI Properties Trust, as Landlord, and CytoTherapeutics, Inc., as Tenant(10)
10.8	Consulting Agreement, dated as of September 25, 1997, between Dr. Irving Weissman and the Registrant(11)
10.9	StemCells, Inc. 1996 Stock Option Plan(12)
10.10 #	1997 StemCells Research Stock Option Plan (the "1997 Plan")(12)
10.11 #	Form of Performance-Based Incentive Option Agreement issued under the 1997 Plan(12)
10.12	License Agreement, dated April 1, 1997, by and among Registrant, NeuroSpheres Ltd. and NeuroSpheres Holdings Ltd. (the "1997 NeuroSpheres license agreement")(13)
10.13 &	License Agreement, dated as of October 30, 2000, between the Registrant and NeuroSpheres Holdings Ltd. (the "2000 NeuroSpheres license agreement")(14)
10.14 #	Letter Agreement, dated January 2, 2001, between the Registrant and Martin McGlynn(15)
10.15 #	2001 Equity Incentive Plan(16)
10.16 #	StemCells, Inc. Amended and Restated 2004 Equity Incentive Plan(17)
10.17 &	License Agreement, dated as of July 1, 2005, between the Registrant and ReNeuron Limited(18)
10.18 #	Letter Agreement, effective as of September 6, 2005, between the Registrant and Rodney K.B. Young(19)

Exhibit No.	Title or Description
10.19	Side Letter, dated October 30, 2000, between the Registrant and NeuroSpheres Ltd. regarding the 1997 and 2000 NeuroSpheres license agreements(14)
10.20	Side Letter, dated March 21, 2002, between the Registrant and NeuroSpheres Ltd. and NeuroSpheres Holdings Ltd. regarding the 2000 NeuroSpheres license agreement(21)
10.21	Side Letter, dated July 2, 2003, between the Registrant and NeuroSpheres Ltd. and NeuroSpheres Holdings Ltd. regarding the 2000 NeuroSpheres license agreement(21)
10.22 &	Side Letter, dated March 9, 2005, between the Registrant and NeuroSpheres Ltd. and NeuroSpheres Holdings Ltd. regarding the 2000 NeuroSpheres license agreement(21)
10.23	Indemnification Agreement, dated July 9, 2008, between the Registrant and NeuroSpheres Holdings, Ltd.(20)
10.24 #	Letter Agreement, effective as of February 2, 1998, between the Registrant and Ann Tsukamoto(21)
10.25 #	Memorandum of Agreement, effective as of July 17, 2000, between the Registrant and Ann Tsukamoto(21)
10.26 #	Letter Agreement, effective as of July 24, 2008, between the Registrant and Stewart Craig(21)
10.27 #	Letter Agreement, effective as of February 2, 2007, between the Registrant and Kenneth B. Stratton(21)
10.28 #	Letter Agreement, effective as of August 6, 2009, between the Registrant and Kenneth B. Stratton(21)
10.29 &	License Agreement, dated as of January 31, 2006, between Stem Cell Sciences (Australia) Pty Limited and The University of Edinburgh(21)
10.30	Lease agreement, dated December 2, 2010, between the Registrant and BMR-Gateway Boulevard LLC(22)
10.31#*	StemCells, Inc. Director's Fee Plan
21	Subsidiaries of the Registrant(21)
23.1*	Consent of Grant Thornton, LLP, Independent Registered Public Accounting Firm
31.1*	Certification Pursuant to Securities Exchange Act Rule 13(a)-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (Martin McGlynn, Chief Executive Officer)
31.2*	Certification Pursuant to Securities Exchange Act Rule 13(a)-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (Rodney K.B. Young, Chief Financial Officer)
32.1*	Certification Pursuant to 18 U.S.C. Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Martin McGlynn, Chief Executive Officer)
32.2*	Certification Pursuant to 18 U.S.C. Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Rodney K.B. Young, Chief Financial Officer)
101.1	The following materials from the Registrant's Annual Report on Form 10-K for the year ended December 31, 2012 are formatted in XBRL (eXtensible Business Reporting Language): (i) the Condensed Consolidated Balance Sheets, (ii) the Condensed Consolidated Statements of Operations, (iii) the Condensed Consolidated Statements of Cash Flows, and (iv) Notes to Condensed Consolidated Financial Statements.(%)

# Indicates management compensatory plan, contract or arrangement.

& Confidential treatment requested as to certain portions. Material has been omitted and separately filed with the Commission.

% Pursuant to Rule 406T of Regulation S-T, the XBRL files on Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

* Filed herewith.

(1) Incorporated by reference to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2006 and filed on March 15, 2007.

(2) Incorporated by reference to the Registrant's current report on Form 8-K filed on May 7, 2007.

(3) Incorporated by reference to the Registrant's Registration Statement on Form S-3, File No. 333-151891.

(4) Incorporated by reference to the Registrant's current report on Form 8-K filed on November 12, 2008.

(5) Incorporated by reference to the Registrant's current report on Form 8-K filed on October 28, 2009.

(6) Incorporated by reference to the Registrant's current report on Form 8-K filed on December 16, 2011.

(7) Incorporated by reference to the Registrant's annual report on Form 10-K for the fiscal year ended December 31, 2008 and filed on March 16, 2009.

(8) Incorporated by reference to the Registrant's Registration Statement on Form S-1, File No. 33-45739.

(9) Incorporated by reference to the Registrant's Registration Statement on Form S-1, File No. 33-85494.

(10) Incorporated by reference to the Registrant's annual report on Form 10-K for the fiscal year ended December 31, 1997 and filed on March 30, 1998.

(11) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1997 and filed on November 14, 1997.

(12) Incorporated by reference to the Registrant's Registration Statement on Form S-8, File No. 333-37313.

(13) Incorporated by reference to the Registrant's Annual Report on Form 10-K/A for the fiscal year ended December 31, 2005 and filed on March 22, 2006.

(14) Incorporated by reference to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2000 and filed on April 2, 2001.

(15) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2009.

(16) Incorporated by reference to the Registrant's definitive proxy statement filed May 1, 2001.

(17) Incorporated by reference to the Registrants Registration Statement on Form S-8, File No. 333-118263.

(18) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2005.

(19) Incorporated by reference to the Registrant's current report on Form 8-K filed on September 7, 2005.

(20) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2008.

(21) Incorporated by reference to the Registrant's annual report on Form 10-K for the fiscal year ended December 31, 2009 and filed on March 11, 2010.

(22) Incorporated by reference to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2010 and filed on March 11, 2011.

Exhibit 10.31

STEMCELLS, INC.
DIRECTORS' FEE PLAN

1. Purpose. The following equity compensation plan, entitled the "Directors' Fee Plan" (hereinafter, the " Plan"), was adopted by the Board of Directors of StemCells, Inc. (the "Company"), effective as of March 16, 2011, to provide a method for paying equity compensation to one or more of the Company's directors in lieu of cash compensation otherwise owed to them for Board service, such as quarterly retainers and meeting attendance fees. Participation in the Plan is entirely discretionary and open to each of the currently serving non-employee directors of the Company (each a " Director"). The Plan allows such Directors to elect to receive certain fees for services to the Company in the form of cash and/or Company common stock.

2. Establishment. The Plan has been established by the Board under the Company's existing Amended and Restated 2006 Equity Incentive Plan (the "2006 Incentive Plan"), as permitted by section 3 of the 2006 Incentive Plan. All capitalized terms used herein, but not otherwise defined, shall have the meanings ascribed to them in the 2006 Incentive Plan, which is incorporated herein by this reference. The Company has reserved 1,000,000 shares of Company common stock under the 2006 Incentive Plan for issuance under this Plan.

3. Election of Form of Payment.

(a) Any Director may, at any time, make an election in the form attached hereto as Exhibit A to receive a specified percentage of fees for services to be performed by the Director as a member of the Board, including fees for service on Board committees (any such compensation hereinafter, the Director's "Fees"), in the form of cash and/or an Award of Company common stock. Any election received by the Company's CEO will become effective on the first day of the calendar quarter immediately after the calendar quarter in which the election was received by the Company. Each Director's election will continue in force and effect until the earlier of: (i) the end of the Director's service on the Board, (ii) the consummation of a Covered Transaction, (iii) termination or expiration of the Plan or the 2006 Incentive Plan, (iv) the date on which the Company's common stock is no longer publicly traded, and (v) delivery by the Director of a superseding election, which will become effective on the first day of the immediately following calendar quarter, as provided above.

(b) An individual who first becomes a Director after the beginning of a calendar quarter will be paid all Fees in cash for the remainder of that calendar quarter, but may make an election described in Section 3(a) for any future calendar quarter, provided such election is made in accordance with Section 3(a).

(c) A Director's Fees will be paid 100% in cash unless and until he or she makes an election to the contrary.

4. Payment.

(a) The Company will make a cash payment and/or issue shares of common stock to each Director participating in the Plan for Fees owed, within five (5) business days of the first business day of each calendar quarter, in each case in accordance with such Director's then-current election and the provisions of the Plan. If a Director has elected, pursuant Section 3, above, to receive any portion of his or her Fees in the form of an Award of common stock issued under the 2006 Incentive Plan, the number of shares issuable will be calculated by multiplying the Fees owed by the percentage to be paid in stock, as provided in the Director's current election, and then dividing the product by the closing price of the Company's common stock, as reported on the applicable U.S. stock exchange, on the first trading day of the calendar quarter in which payment is made; provided, however, that the Company will round shares paid down to the nearest whole share. No partial shares will be issued.

(b) Any stock Award received pursuant to this Plan will be granted under and pursuant to the 2006 Incentive Plan and will be subject to all of the terms and conditions therein.

(c) Stock Awards under this Plan will be fully vested. However, the resale or other transfer of shares issued under the Plan to Directors may be restricted by U.S. securities law as well as by the Company's Insider Trading Policies, as may then be in effect.

(d) Stock Awards may be either certificated or uncertificated, at the Administrator's election. Directors must have an active brokerage account in order to participate in the Plan.

5. Restriction on Alienation. No person shall have any right to sell, assign, transfer or otherwise convey any rights or obligations hereunder, in whole or in part, whether voluntarily or involuntarily, which rights and obligations are expressly declared to be non-assignable and non-transferable.

6. Section 409A of the Code. Each election hereunder is intended to be exempt from, or comply with, the requirements of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code") and regulations issued thereunder and shall be construed accordingly. Notwithstanding anything to the contrary in this Plan, neither the Company nor any person acting on behalf of the Company shall be liable to any Director or to his or her estate or beneficiary by reason of any acceleration of income, or any additional tax, asserted by reason of the failure of this Plan to be exempt from or to satisfy the requirements of Section 409A of the Code or by reason of Section 4999 of the Code.

7 Successors. The Plan shall be binding upon and shall inure to the benefit of the Company, its successors and assigns and each participating Director, his or her personal representatives, designated beneficiary and next-of-kin.

8. Administration. The Administrator shall have full discretionary power to administer the Plan, including, but not limited to, the power to interpret the Plan and make and enforce such rules as it deems necessary or proper for the efficient administration of the Plan. Interpretations and determinations under the Plan by the Administrator are binding and conclusive.

9. Recapitalizations. In the event of any change in the capitalization of the Company, such as a stock split, reverse stock-split, corporate merger, or reorganization, the Administrator may make such substitution or adjustments in the aggregate number and kind of shares reserved for issuance under the Plan, and/or such other equitable substitution or adjustments as it may determine to be appropriate in its sole discretion; provided, however, that the number of shares subject to any Award will always be a whole number.

10. Amendment and Termination. The Board may at any time amend, alter, suspend, or terminate the Plan. No amendment, alteration, suspension, or termination of the Plan will impair the vested rights of any Director, unless mutually agreed otherwise in writing by the Company and the Director.

11. Governing Law. The Plan will be governed by the laws of the State of California, without reference to principles of conflict of laws.

StemCells, Inc.

By: /s/ Kenneth B. Stratton
Name: Kenneth B. Stratton,
General Counsel and Company Secretary

Exhibit A: Directors' Fees Election Form

I, , hereby elect to have my Fees paid to me in the following form (one form of payment should be marked with an "x"), pursuant to the Directors' Fees Plan of StemCells, Inc. ("Company"):

____ 100% cash;
____ 50% cash and 50% common stock Award under the 2006 Incentive Plan; or
____ 100% common stock Award under the 2006 Incentive Plan.

Common stock should be deposited into the following brokerage account:

_____

_____

I understand that "Fees" will include payments owed to me for my service on the Company's Board of Directors, including its committees, such as the following retainer amounts and attendance fees, if applicable (as may be amended from time to time):

Retainer, members of the Board	$6,250 each quarter, payable on the last day of each quarter
Retainer, Chairman of the Board	$12,500 each quarter, payable on the last day of each quarter
Standing Committee Chairmanships	Audit: $2,500 quarterly Compensation 1,250 quarterly Nominating/Gov. 1,250 quarterly Strategic Trans 1,250 quarterly all payable on the last day of each quarter
Board Meetings, in person or by videoconference	$2,000
Meetings of Standing Committees, in person or by videoconference	$1,000
Board or Standing Committee Meetings by phone	$1,000 (Board mtg); $500 (committee mtg)

I understand that an investment in the Company involves risks and uncertainties and that no assurance is given that I will be able to sell any stock issued to me under the Plan, at any particular time or at any particular price.

Accepted and Agreed:

Director
Date:

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our reports dated March 14, 2012, with respect to the consolidated financial statements and included in the Annual Report of StemCells, Inc. and subsidiaries on Form 10-K for the year ended December 31, 2011. We hereby consent to the incorporation by reference of said reports in the previously filed Registration Statements of StemCells, Inc. on Form S-1 (File No. 333-61726, effective May 25, 2001 and amended on June 29, 2001 and July 2, 2011), on Forms S-3 (File Nos. 333-170300, effective November 16, 2010, 333-159604, effective May 29, 2009, 333-151891, effective June 24, 2008 and amended on July 18, 2008, 333-117360, effective July 14, 2004, 333-105664, effective May 29, 2003 and amended on June 3, 2003, 333-83992, effective on March 8, 2002 and amended on July 2, 2002, 333-75806, effective December 21, 2001 and amended on January 1, 2009, and 333-66692, effective August 3, 2001 and amended on August 8, 2001) and on Forms S-8 (File Nos. 333-10773, effective August 23, 1996, 333-29335, effective June 16, 1997, 333-37313, effective October 7, 1997, 333-66700, effective August 3, 2001, 333-118263, effective August 16, 2004, 333-144747, effective July 20, 2007, and 33-49524, effective July 10, 1992) and in the Registration Statements of CytoTherapeutics, Inc. on Forms S-3 (File Nos. 33-91228, effective April 14, 1995, and 33-68900, effective September 15, 1993).

/s/ Grant Thornton LLP

San Jose, California
March 14, 2012

EXHIBIT 31.1

Certification of Chief Executive Officer
under Section 302 of the Sarbanes-Oxley Act

I, Martin McGlynn, certify that:

(1) I have reviewed this annual report on Form 10-K of StemCells, Inc.;

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

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

(4) The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act 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 officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

a. all significant deficiencies and material weaknesses in the design or operation of internal controls 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 14, 2012

/s/ Martin McGlynn
Martin McGlynn
President and Chief Executive Officer

EXHIBIT 31.2

Certification of Chief Financial Officer
under Section 302 of the Sarbanes-Oxley Act

I, Rodney K.B. Young, certify that:

(1) I have reviewed this annual report on Form 10-K of StemCells, Inc.;

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

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

(4) The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act 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 officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

a. all significant deficiencies and material weaknesses in the design or operation of internal controls 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 14, 2012

/s/ Rodney K.B. Young
Rodney K.B. Young
Chief Financial 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 StemCells, Inc. (the "Company") Annual Report on Form 10-K for the year ended December 31, 2011 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Martin McGlynn, President and 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 the best of my knowledge:

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

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

Date: March 14, 2012

/s/ Martin McGlynn

Martin McGlynn
President and Chief 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 StemCells, Inc. (the "Company") Annual Report on Form 10-K for the year ended December 31, 2011 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Rodney K.B. Young, 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 the best of my knowledge:

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

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

Date: March 14, 2012

/s/ Rodney K.B. Young

Rodney K.B. Young
Chief Financial Officer