STEMCELLS INC
Form 10-K
March 11, 2010

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

Form 10-K

þ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2009

or

o **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.)*
3155 PORTER DRIVE PALO ALTO, CA	**94304**
(Address of principal offices)	*(zip code)*

Registrant s telephone number, including area code:
(650) 475-3100

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 Junior Preferred Stock Purchase Rights	Nasdaq Global Market

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

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

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 o No þ

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 þ No o

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 o No o

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. o

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 o	Accelerated filer þ	Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No þ

Aggregate market value of common stock held by non-affiliates at June 30, 2009: $108,027,916. 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 10, 2010: 119,271,882 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant s definitive Proxy Statement relating to the registrant s 2010 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 a indirectly wholly-owned subsidiaries. Common stock refers to StemCells, Inc., common stock, $.01 par value.

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PART I

Item 1. *BUSINESS*

Overview

StemCells, Inc. is engaged in the research, development, and commercialization of stem cell therapeutics and related enabling 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 (i) cellular medicine, or the use of stem and progenitor cells as the basis for novel therapeutics and therapies, and (ii) enabling technologies for stem cell research, or the use of cells and related technologies to enable stem cell-based research and drug discovery and development.

Our primary research and development efforts are focused on cellular medicine, where we seek to identify and develop 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 developing applications for our proprietary human liver engrafting cells. 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 disorders of the central nervous system, which includes the brain, spinal cord and eye. We have completed a Phase I clinical trial to evaluate the safety and preliminary efficacy of our HuCNS-SC cells as a treatment for infantile and late infantile neuronal ceroid lipofuscinosis (NCL), two forms of a group of disorders often referred to as Batten disease. NCL is fatal and there are currently no approved treatments for the disease. The data from our NCL trial showed that our HuCNS-SC cells were well tolerated, non-tumorigenic, and there was evidence of engraftment and long-term survival of the HuCNS-SC cells. In November 2009, we initiated a Phase I clinical trial of our HuCNS-SC cells in a second indication, Pelizeaus-Merzbacher Disease (PMD), a fatal myelination disorder in the brain. In February 2010, we enrolled and treated the first patient in our PMD trial, and we expect it will take 12-18 months to complete enrollment. In addition, our HuCNS-SC cells are in preclinical development for spinal cord injury and retinal disorders.

In our Liver Program, we are in preclinical development with our human liver engrafting cells (hLEC) to evaluate hLEC as a potential cellular therapy for a range of liver diseases. In September 2009, we received ethics committee approval to initiate a clinical study to evaluate hLEC as a potential cellular therapy for liver-based metabolic disorders. However, we have decided to defer initiating a clinical study of hLEC, pending additional improvements to our process of isolating and purifying hLEC.

In our enabling cell 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 under the SC Proven® brand, including iSTEM®, GS1-R™, GS2-M™, RHB-A®, RHB-Basal®, NDiff® N2B27, NDiff® 2 and 27 supplements, HEScGRO™, and ESGRO Complete™proprietary media.[2] Academic and industrial laboratories conducting stem cell research need specialized cell culture products for the derivation, growth, maintenance and manipulation of stem cells, and as this type of research continues to grow, the market for such cell culture products will also continue to expand. In addition, the pharmaceutical industry has shown an increasing interest in the use of stem cell-based assays in its research and development activities. We are pursuing

[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.

[2] HEScGRO and ESGRO Complete are trademarks of Millipore Corporation, our co-exclusive distributor of these products.

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the development of our technologies, including technologies relating to embryonic stem cells, induced pluripotent stem (iPS) cells, and tissue-derived (adult) stem cells, as well as a gene insertion technology, for use in drug discovery and development. 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 of the mature functional cell types found in normal organs. 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*: the hemotopoietic stem cell, the mesenchymal stem cell, the neural stem cell, and the embryonic stem cell. 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. 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 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 iPS 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, and ultimately, that good science makes for good medicine.

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

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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 U.S. Food and Drug Administration (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.

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 through our SC Proven product line and are seeking to develop and commercialize applications of our technologies for use in stem cell-based assays.

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.

Cellular Medicine 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.

Program Description and Objective	Status
CNS Program Cell-based therapeutics to restore or preserve function to central nervous system tissue by protecting, repairing or replacing dysfunctional or damaged cells. Initial indications are lysosomal storage diseases that affect the CNS, such as NCL, and disorders in which deficient myelination plays a central role, such as PMD.	*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

delay the loss of motor function in HuCNS-SC transplanted mice.

Pelizeaus-Merzbacher Disease:

Four-patient Phase I clinical trial initiated in November 2009 and first patient enrolled and treated in February 2010.

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Program Description and Objective	Status
	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 tightly wrap the mouse nerve axons to form myelin sheath. *Spinal Cord Injury:* 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; when human cells are ablated restored function is lost become specialized oligodendrocytes and neurons. *Retinal Disorders:* 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 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 to 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. Received ethics committee approval to initiate a clinical study to evaluate hLEC as a potential cellular therapy for liver-based metabolic disorders. Deferred initiating a clinical study of hLEC, pending additional

improvements to our process of isolating and purifying hLEC.

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 the host cells of the patient before such cells are irreversibly damaged or lost due to disease progression. Our initial target indications are neuronal ceroid lipofuscinosis and certain other lysosomal storage diseases, diseases in which deficient myelination plays a central role, such as Pelizeaus-Merzbacher Disease, cerebral palsy or multiple sclerosis; traumatic brain and spinal cord

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injury; and 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. As such, we believe it is well suited for transplantation and should provide a safe and effective therapy. 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 might 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.

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. Two forms of NCL infantile and late infantile are caused by the deficiency of a lysosomal enzyme. Infantile and late infantile NCL are brought on by inherited genetic mutations in the *CLN1* gene, which codes for palmitoyl-protein thioesterase 1 (PPT1), and in the *CLN2* gene, which codes for tripeptidyl peptidase I (TPP-I), respectively. As a result of these mutations, the relevant enzyme is either defective or missing, 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.

In January 2009, we completed a six-patient Phase I clinical trial at Oregon Health & Science University Doernbecher Children s Hospital to evaluate the safety and preliminary efficacy of our HuCNS-SC product candidate as a treatment for infantile and late infantile NCL. We believe that this clinical trial was the first FDA-authorized trial to evaluate purified human neural stem cells as a potential therapeutic agent. This trial was an open label study with two dose levels. Under the trial protocol, patients received immunosuppression for one year following transplantation of the HuCNS-SC cells. 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. In November 2009, we met with the FDA to review the results of this trial and to discuss our proposed clinical development plans. During this meeting, the FDA acknowledged our position that the risk-benefit profile shown by the Phase I data merits further clinical evaluation of HuCNS-SC cells in NCL. We continue to be in

discussions with the FDA regarding our plans for a second clinical trial in NCL, although there can be no assurance when or if such a trial will be initiated.

Our preclinical data demonstrate that HuCNS-SC cells, when transplanted in a mouse model of infantile NCL, engraft, migrate throughout the brain, produce the missing PPT1 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

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the peer-reviewed journal *Cell Stem Cell.* We have also demonstrated *in vitro* that HuCNS-SC cells produce TPP-I, the enzyme that is deficient in late infantile NCL.

Other Lysosomal Storage Diseases.

NCL is one of a group of approximately 46 known lysosomal storage diseases (LSDs). All LSDs are caused by a defective or missing gene which codes for an enzyme that processes cellular waste substances. Cellular waste is stored in a part of cells known as the lysosome, and patients with the defective gene are unable to produce enough of the particular enzyme, causing the cellular waste to build up in the lysosome. Eventually, the cells cannot function and die. Some LSDs can be treated by enzyme replacement therapies, and examples of enzyme replacement products already approved are Cerezyme™ for Gaucher disease, Fabryzyme™ for Fabry disease, Myozyme® for Pompe disease, Aldurazyme™ for MPS I, and Naglazyme™ for MPS VI. All of these approved products, however, address LSDs which primarily affect peripheral organs rather than the central nervous system. Although about half of known LSDs primarily affect the central nervous system, enzyme replacement therapy is not currently a practical treatment option for this subset of LSDs because enzymes are typically too large to cross the blood-brain barrier. We believe that transplanting HuCNS-SC cells directly into the central nervous system may have the potential to treat some LSDs that affect the central nervous system by supplying missing enzymes to the brain. In addition to infantile and late infantile NCL, we have found that HuCNS-SC cells can produce the relevant enzyme in a number of other LSDs that affect the central nervous system.

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 November 2009, we initiated a Phase I clinical trial of our HuCNS-SC product candidate for PMD, and in February 2010, we enrolled and treated the first patient in the trial. A total of four patients with PMD are planned for this trial, and we expect it will take twelve to eighteen months to complete enrollment. In this trial, the patients will be transplanted with HuCNS-SC cells and evaluated regularly over a 12-month period. The periodic evaluations will include magnetic resonance imaging (MRI) of the brain, which may enable the measurement of new myelin formation. The trial is being 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), and also plays 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. In addition, in collaboration with researchers at Oregon Health & Science University, we are attempting to detect human myelin production by HuCNS-SC cells in the *shiverer* mouse model using magnetic resonance imaging.

Spinal Cord Injury.

Stem cells may have the potential to treat various spinal cord indications. 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 HuCNS-SC cells have the potential to protect and regenerate damaged nerves and nerve fibers, and that injured mice

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transplanted with our human neural stem 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. We are continuing preclinical development on our HuCNS-SC product candidate for various spinal cord indications.

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, and 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 and retinitis pigmentosa.

In January 2008, we entered into a research collaboration with Oregon Health & Science University Casey Eye Institute to evaluate engraftment and potential applicability of our HuCNS-SC cells in retinal disorders. 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 sensory neurons of the retina) 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 age-related macular degeneration (AMD), the leading cause of vision loss and blindness in people over the age of 55. We are continuing preclinical studies of our HuCNS-SC cells as a potential treatment for retinal disorders.

Other Neural 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. In addition, we concluded an NIH-funded collaboration with researchers at the McLaughlin Research Institute to investigate the role of Alzheimer s plaques in neuronal cell death in Alzheimer s disease. Under the collaboration, our HuCNS-SC cells were transplanted into mouse models of Alzheimer s disease and the cells showed robust engraftment in an environment riddled with Alzheimer s plaques.

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, or 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.

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We have identified and isolated a cell population that we call human liver engrafting cells (hLEC) which can be derived from all types of human livers, including those that would not be suitable for liver transplantation. When tested *in vitro*, hLEC demonstrate essential liver enzymatic functions, such as detoxification (cytochrome P450) and conversion of toxic ammonia to urea. When transplanted into immunodeficient mice with a metabolic defect, Tyrosinemia Type I, hLEC engraft and show basic function of hepatocytes. Specifically, hLEC produce the human protein deficient in this animal model (fumarylacetoacetate hydrolase, FAH) as well as human albumin and alpha-1-antitrypsin and the engrafted human cells store glycogen and form structural elements for bile and drug excretion from the liver.

In September 2007, we entered into a research collaboration with the Université Catholique de Louvain (UCL) and the UCL-affiliated Cliniques Universitaires Saint Luc, both of Louvain, Belgium, to further the development of hLEC as a potential cell-based liver therapy. In September 2009, we received ethics committee approval at UCL to initiate a clinical study to evaluate hLEC as a potential cellular therapy for liver-based metabolic disorders. However, we have decided to defer initiating a clinical study of hLEC pending additional improvements to our process of isolating and purifying hLEC.

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

Enabling 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

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.

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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 N2B27, HEScGRO, and ESGROComplete proprietary media. 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 (NS) 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 NS cells. RHB-Basal can also be tailored to specific-cell type requirements by the addition of customer preferred supplements.
NDiff N2B27	A defined serum-free medium for the differentiation of mouse embryonic stem cells to neural cell types.
HEScGRO	A defined, animal component free medium for the culture and propagation of human embryonic stem cells.
ESGRO Complete	A defined, serum-free medium for the culture and propagation of mouse embryonic stem cells.
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.

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. We believe stem cell-based drug assays will offer a number of advantages over primary cell-based assays. Stem and progenitor cells can be grown more easily and consistently than most tissue-specific primary cells, which is a key advantage for repetitive testing. Moreover, stem cells can be differentiated into a wide range of cell types, thereby enabling testing against specific cell types.

Because of our leading position in the neural stem cell field, we are initially focusing our cell-based assay development efforts on the CNS field. Neural stem cells can differentiate into the three cell types of the nervous system neurons, astrocytes, and oligodendrocytes and therefore have utility in the discovery and development of compounds to treat disorders of the central nervous system. For example, neural stem cells could be differentiated into specific neuronal cell types to test for certain indications (eg, dopaminergic neurons for Parkinson s disease). Moreover, neural stem cells may provide a range of assays to test for neural toxicity. We have tested thousands of compounds on human neural stem cells and have identified a number of compounds that cause proliferation of these cells, and are continuing research and development into additional CNS assay platforms.

We also believe that our hLEC cells may be useful in cell-based assays to test for liver toxicity. Liver toxicity is believed to be the most often cited cause of clinical trial failures and drug product withdrawals. This is a major issue for the pharmaceutical industry, and it is estimated that the industry spends approximately $200 million per year on hepatocyte preparations for use in toxicology screening.

We own or have exclusively licensed a number of patents related to technologies relevant to cell-based research. 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.

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Operations

Manufacturing

We have made considerable investments in our manufacturing operations. We believe that we have the ability to process cells suitable for use in our ongoing and planned therapeutic products research and development activities and clinical trials. We believe we also have sufficient ability to process our 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, England. 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, 2009, we had 75 full-time employees, 20 of whom have Ph.D., M.D. or D.V.M. degrees. 59 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. As of December 31, 2009, our U.S. patent portfolio included approximately 50 issued or allowed U.S. patents from over 40 separate patent families. We also have foreign counterparts to a majority of our U.S. patents and applications; a substantial number of these have issued in various countries, making a total of over 200 granted or allowed non-U.S. patents as of December 31, 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 human 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 of 5 to 10 days;

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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 Nos. 6,238,922 and 7,049,141, both entitled Use of collagenase in the preparation of neural stem cell cultures, which describe methods to advance the *in vivo* culture and passage of human CNS stem cells that result in a 100-fold increase in CNS stem and progenitor cell production after 6 passages;

U.S. Patent No. 5,851,832, entitled *In Vitro* growth and proliferation of multipotent neural stem cells and their progeny, which covers our methods for selecting the human CNS cell cultures containing central nervous system stem cells, for compositions of human CNS cells expanded by these methods, and for use of cells derived from these cultures in human transplantation;

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

U.S. Patent No. 7,381,261, entitled Enriched central nervous system stem cell and progenitor cell populations, and methods for identifying, isolating and enriching for such populations, which covers the use of additional monoclonal antibodies for the prospective isolation of rare cells from human neural tissue.

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;

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; and

U.S. Patent No. 7,371,573, entitled Propagation and/or derivation of embryonic stem cells, which covers methods of culturing and deriving embryonic stem cells using LIF and MEK inhibitor.

Since our acquisition of substantially all of the operating assets and liabilities of SCS in April 2009, we have received notice of either the issuance or the allowance of the following stem cell patents, all of which are either owned by, or exclusively licensed to, us: (i) two patents claiming cell culture media (New Zealand Pat. No. 547105 and U.S. Pat. No. 7,595,193); (ii) five patents claiming research technologies, including one for the derivation of genetically modified rats using embryonic stem cell technologies (U.S. 7,598,082, J.P. No. 4375759, EPO No. 1115840, U.K. Pat. No. 0716426.2, and U.S. Pat. App. 10/502,972); and (iii) two patents claiming either the proliferation or modification

of neural stem cells (J.P. No. 4416837 and Finnish Pat. No. 120455). In January 2010, we also received notice of an hLEC patent allowance in Japan (Pat. App. No. 2003-507235).

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.

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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 with Research Institutions

We have entered into a number of license agreements with academic organizations, including the University of Edinburgh, the California Institute of Technology (Cal Tech), Cambridge University, RIKEN Institute, and Oregon Health & Science University (OHSU). Under these license agreements, we are typically subject to 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. The license agreement with the University of Edinburgh covers a range of stem cell technologies. Generally speaking, these license agreements will terminate upon expiration, revocation or invalidation of the patents licensed to us, unless governmental regulations require a shorter term. They also will terminate earlier if we breach our obligations under the agreement and do not cure the breach or if we declare bankruptcy. We can terminate these license agreements at any time upon notice.

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 covers thirteen 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.

Pursuant to the terms of our license agreement with Cal Tech, we must pay $10,000 upon the issuance of the first patent in each family licensed to us under the relevant agreement and $5,000 on the first anniversary of the issuance of each such patent, payable in cash or common stock at our option. We have paid $70,000 on account of these patents through December 31, 2008; the $10,000 due in 2009 was paid in common stock (5,900 shares). These amounts are creditable against royalties we must pay under the license agreements. The maximum royalties that we will have to pay to Cal Tech will be $2 million per year, with an overall maximum of $15 million. Once we pay the $15 million maximum royalty, the licenses will become fully paid and irrevocable. In August 2002 we acquired an additional license from Cal Tech to different technology, pursuant to which we issued 27,535 shares of our common stock with a market value of approximately $35,000; we have also issued 9,535 shares of our common stock with a market value of approximately $15,000 to Cal Tech on the issuance of two patents covered under this additional license.

Licenses with Commercial Entities

NeuroSpheres, Ltd.

In March 1994, we entered into a contract research and license agreement with NeuroSpheres, Ltd., an Alberta corporation (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

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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. We made up-front payments to NeuroSpheres of 65,000 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.

On July 9, 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.

ReNeuron Limited

In July 2005, we entered into an agreement with ReNeuron Limited, a wholly owned subsidiary of ReNeuron Group plc, a listed UK corporation (collectively referred to as ReNeuron). As part of the agreement, we granted ReNeuron a license that allows ReNeuron to exploit their 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), and subsequently, in 2006 and 2007, 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 $3,077,000, and we recognized a realized gain of approximately $716,000 from this transaction. In February and March of 2009, we sold, in aggregate, approximately 2,900,000 more shares and received net proceeds of approximately $510,000, and we recognized a realized gain of approximately $398,000 from these transactions. As of December 31, 2009, we held approximately 1,922,000 shares of ReNeuron as marketable equity securities with a carrying and fair market value of approximately $197,000. See Note 2 Financial Instruments ReNeuron and Quantitative and Qualitative Disclosures about Market Risk in Part I, Item 7A of this Form 10-K for further information.

Stem Cell Therapeutics Corp.

In August 2006, we entered into an agreement with Stem Cell Therapeutics Corp. (SCT), 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.

Other Commercial Licenses

We have approximately a dozen 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

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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 Comprehensive Cancer Center, 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.

David J. Anderson, Ph.D., is Roger W. Sperry 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

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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.

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Steps	Considerations
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.

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Steps	Considerations
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. In addition, the recently enacted FDA Amendments Act of 2007 provides the FDA with expanded authority over drug products after approval, including the authority to require post-approval studies and clinical trials, labeling changes based on new safety information, and compliance with risk evaluation and mitigation strategies approved by the FDA.

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.

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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, which came into effect in May 2005. 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.

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 enabling 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 media 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 tend to avoid head to head competition against entrenched competitors with commoditized

products.

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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 clinical trials to test our HuCNS-SC cells in other potential indications. 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.

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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, 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. 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 NCL trial we completed at Oregon Health & Science University (OHSU), and our currently ongoing PMD trial at University of California, San Francisco Childrens Hospital, 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 the FDA has approved our IND to conduct a Phase I clinical trial for PMD and to date, we have enrolled and treated one patient, there can be no assurance that this clinical trial 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.

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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 our Phase I clinical trial for NCL, and is included in the protocol for our ongoing Phase I clinical trial for PMD.

Our success will depend in large part on our ability to develop and commercialize products that treat diseases other than neuronal ceroid lipofuscinosis (Batten disease) and Pelizeaus-Merzbacher Disease (PMD).

Although we 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 infantile and late infantile 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, on April 1, 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. 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. 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.

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

On April 1, 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 frequently a complex, costly and time-consuming process. Therefore we expect to 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, including:

incurrence or assumption of material liabilities, including unanticipated ones;

assumption of pre-existing contractual obligations and obligations owed by the acquired SCS business to customers and research collaborators, which may not be profitable to our business or deemed consistent with our development plans;

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diversion of resources and management attention from our existing businesses and technologies;

inability to retain key employees of any acquired businesses or hire enough qualified personnel to staff any new or expanded operations;

impairment or loss of relationships with key customers or collaborators; and

exposure to new and unanticipated federal, state, local, and foreign legal requirements, which may impact our research and development programs on a consolidated basis.

Our failure to address these risks and uncertainties successfully in the future could harm our business and prevent our achievement of anticipated growth, which could have an adverse effect on our financial condition and results of operations.

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 $1,752,000 in 2009; 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 $411,000 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, 2009, the reserve was $4,433,000. For the year 2009, we incurred $1,216,000 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,

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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 and legal 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. For example, under the procedures of the European Patent Office, third parties may oppose our issued European patents during the relevant opposition period. These proceedings and oppositions could result in substantial uncertainties and cost for us, even if the eventual outcome is favorable to us, and the outcome might not be favorable to us. In the United States, third parties may seek to invalidate or render unenforceable issued patents through a U.S. PTO reexamination process or through the courts; currently six of our patents are the subject of litigation. 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 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. 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.

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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 molecule, 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.

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

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, including the members of our scientific advisory board. Although we have entered into employment

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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 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

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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 debate regarding related ethical, legal and social issues. 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. 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. 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

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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.

Restrictions on the use of human embryonic stem cells, including public and political opposition to the use of these cells, could harm our business.

Some of our research includes testing cells derived from embryonic tissue. While we are not currently developing human embryonic stem cells as potential therapeutic products, legal restrictions on the use of human embryonic stem cells could impede our ability to develop worthwhile non-therapeutic products for research. Furthermore, we may in the future explore the applicability of embryonic stem cells as cell-based therapeutic products. 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. These risks could have unanticipated adverse consequences on our business.

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 the Securities Market

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, 2009, the trading price of our common stock as reported on the Nasdaq Global Market ranged from a high of $3.07 to a low of $0.66 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.

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

As of December 31, 2009, there were outstanding warrants to purchase 14,344,828 shares of our common stock, at a weighted average exercise price of $2.08 per share, outstanding options to purchase 9,260,812 shares of our common stock, at a weighted average exercise price of $2.28 per share, and outstanding restricted stock units for 2,437,901 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*

We entered into a 5-year lease, as of February 1, 2001, for a 40,000 square foot facility, located in the Stanford Research Park in Palo Alto, California. This facility includes space for animals as well as laboratories, offices and a suite designed to be used to manufacture materials for clinical trials. Effective July 1, 2006, under an agreement that extends the lease through March 31, 2010, we leased the remainder of the building, adding approximately 27,500 square feet to our leased premises. In October 2009, we amended the lease to extend the expiry date of the lease term from March 31, 2010 to August 31, 2011. We have a space-sharing agreement with Stanford University for part of the animal facility not needed for our own use.

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 26 percent of the total space. We are actively seeking to sublease, assign or sell our remaining interests in these properties.

On April 1, 2009, as part of our acquisition of the operations of SCS, we acquired operations in Cambridge, U.K. As of April 2009, our wholly-owned subsidiary, Stem Cell Sciences (UK) Ltd, had two lease agreements with Babraham Bioscience Technologies Ltd. (BBT) for in aggregate approximately 3,900 square feet of office and lab space in two buildings of the Babraham Research Campus in Cambridge, U.K. One of these two leases, for approximately 2,000 square feet, expired by its terms on February 28, 2010. The second, for approximately 1,900 square feet, has an initial term until March 2011, with an option, at our election, to extend the term for an additional five years. In February 2010, in order to consolidate our operations into a single building at the research campus, we entered into a new lease agreement with BBT effective March 1, 2010, for approximately 3,240 square feet. The initial term of this new lease will continue until March 2011, with an option, at our election, to extend the term for an additional two years. The two leases cover in aggregate approximately 5,000 square feet. We expect to pay approximately 134,000 U.K. pounds (GBP) as rental payments for 2010. StemCells, Inc. is a guarantor of Stem Cell Sciences (UK) Ltd s obligations under both leases.

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. In

December 2006, Neuralstem petitioned the U.S. Patent and Trademark Office (PTO) to reexamine two of the patents in our infringement action against Neuralstem, namely U.S. Patent No. 6,294,346 (claiming the use of human neural stem cells for drug screening) and U.S. Patent No. 7,101,709 (claiming the use of human neural stem cells for screening biological agents). In April 2007, Neuralstem petitioned the PTO to reexamine the remaining two patents in the suit, namely 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). These requests were granted by the PTO and, in June 2007, the parties voluntarily agreed to stay

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the pending litigation while the PTO considered these reexamination requests. In April 2008, the PTO upheld the 832 and 872 patents, as amended, and issued Notices of Intent to Issue an Ex Parte Reexamination Certificate for both. In May 2009, the PTO upheld the 346 and 709 patents, as amended, and issued Notices of Intent to Issue an Ex Parte Reexamination Certificate for both.

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. In August 2009, the Maryland District Court approved a scheduling order submitted by the parties for discovery and trial.

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. Neuralstem has responded to this opposition and the parties are currently awaiting a hearing, expected for 2010. In September 2009, we also filed a request with the PTO to reexamine Neuralstem s U.S. Patent No. 5,753,506 (methods of isolating, propagating and differentiating CNS stem cells), which is the U.S. counterpart of Neuralstem s 968 patent in Europe. The PTO granted this reexamination request in October 2009, and in January 2010, the PTO issued an initial office action rejecting all the claims of the patent.

Item 4. *SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS*

None.

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
2009		
First Quarter	$ 3.07	$ 1.25
Second Quarter	$ 1.94	$ 1.50
Third Quarter	$ 1.86	$ 1.56

Fourth Quarter	$ 1.72	$ 1.02
2008		
First Quarter	$ 1.90	$ 1.00
Second Quarter	$ 1.75	$ 1.11
Third Quarter	$ 1.43	$ 1.00
Fourth Quarter	$ 2.48	$ 0.66

No cash dividends have been declared on our common stock since our inception.

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PERFORMANCE GRAPH

We show below the cumulative total return to our stockholders during the period from December 31, 2004 through December 31, 2009 [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, 2004	December 31, 2005	December 31, 2006	December 31, 2007	December 31, 2008	December 31, 2009
StemCells, Inc.	$ 100.00	$ 81.56	$ 62.65	$ 35.46	$ 32.15	$ 29.79
S&P 500 Index	$ 100.00	$ 103.00	$ 117.03	$ 121.16	$ 74.53	$ 92.01
Amex Biotechnology Index	$ 100.00	$ 125.11	$ 138.59	$ 144.51	$ 118.91	$ 173.11

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 filing of StemCells, Inc. 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, 2010, there were approximately 600 holders of record of our common stock and the closing price of our common stock on the Nasdaq Global Market was $1.20 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, 2009)

We issued the following unregistered securities in 2009:

In September 2009, we issued 5,900 shares of common stock to the California Institute of Technology (Cal Tech) for payment of annual fees of $5,000 for each of two patent families to which we hold a license from

[3] Cumulative total returns assumes a hypothetical investment of $100 on December 31, 2004.

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Cal Tech, payable in cash or stock at our choice. We elected to pay these fees in stock. The shares were issued in a transaction not involving any public offering pursuant to Section 4(2) of the Securities Act of 1933, as amended.

We issued the following unregistered securities in 2008:

In September 2008, we issued 6,924 shares of common stock to Cal Tech for payment of annual fees of $5,000 for each of two patent families to which we hold a license from Cal Tech, payable in cash or stock at our choice. We elected to pay these fees in stock. The shares were issued in a transaction not involving any public offering pursuant to Section 4(2) of the Securities Act of 1933, as amended.

We issued the following unregistered securities in 2007:

In June 2007, we issued 3,865 shares of common stock to Cal Tech for payment of annual fees of $5,000 for each of two patent families to which we hold a license from Cal Tech, payable in cash or stock at our choice. We elected to pay these fees in stock. The shares were issued in a transaction not involving any public offering pursuant to Section 4(2) of the Securities Act of 1933, as amended.

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, 2009.

	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)	11,698,713	$ 1.80	5,688,555

(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, or our 2001, 2004 and 2006 Equity Incentive Plans.

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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,				
	2009	2008	2007	2006	2005
	(In thousands, except per share amounts)				
Consolidated Statements of Operations					
Revenue from licensing agreements and grants	$ 608	$ 232	$ 57	$ 93	$ 206
Revenue from product sales	385				
Research and development expenses(1)	19,930	17,808	19,937	13,600	8,226
General and administrative expenses(1)	9,530	8,296	7,927	7,154	5,540
Wind-down expenses(2)	650	866	783	709	2,827
Write down for other than temporary impairment of marketable securities(3)		2,083			
Gain (loss) on change in fair value of warrant liabilities(4)	1,899	(937)			
License & settlement agreement income, net(5)			551	103	3,736
Gain on sale of marketable securities	407		716		
Net loss	(27,026)	(29,087)	(25,023)	(18,948)	(11,738)
Basic and diluted loss per share	$ (0.25)	$ (0.35)	$ (0.31)	$ (0.25)	$ (0.18)
Shares used in computing basic and diluted loss per share amounts	106,046	82,716	79,772	74,611	63,643

	December 31,				
	2009	2008	2007	2006	2005
	(In thousands)				
Consolidated Balance Sheets					
Cash and cash equivalents	$ 38,618	$ 30,043	$ 9,759	$ 51,795	$ 34,541
Marketable securities	197	4,182	29,847	7,266	3,721
Total assets	51,190	41,230	48,283	66,857	44,839
Accrued wind-down expenses(2)	4,506	5,513	6,143	6,750	7,306
Fair value of warrant liabilities(4)	9,677	8,440			
Long-term debt, including capital leases	785	867	1,034	1,145	1,351
Stockholders equity	30,495	21,809	35,212	54,376	32,376

(1) Effective January 1, 2006, we recognize in operating expenses, the fair value of our stock-based compensation awards. See Note 10 Stock-Based Compensation in the Notes to the Consolidated Financial Statements of Part II,

Item 8 of this Form 10-K for further information.

(2) 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.

(3) Relates to the impairment of our marketable equity securities (shares of ReNeuron) determined to be other than temporary. 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.

(4) Relates to the fair value of warrants issued as part of our financing in November 2008 and November 2009. 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.

(5) Relates to an agreement with ReNeuron. 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.

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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 neuronal ceroid lipofuscinosis (NCL, also known as Batten disease), Pelizeaus-Merzbacher disease (PMD), or any other disease; uncertainty as to whether the U.S. Food and Drug Administration (FDA) 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 encapsulated cell therapy 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 technologies for stem cell-based research and drug discovery and development. Our research and development (R&D) programs are primarily focused on our cellular medicine programs, where we are engaged in 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 two indications: neuronal ceroid lipofuscinosis (NCL), a lysomal storage disorder often referred to as Batten disease, and Pelizeaus-Merzbacher Disease (PMD), a myelination disorder in the brain. We have completed a six patient Phase I clinical trial in infantile and late infantile NCL. The data from this trial showed that the HuCNS-SC cells were well tolerated and there was evidence of engraftment and long-term survival of the HuCNS-SC cells. In November 2009, we met with the FDA to review the results our Phase I trial in NCL and to discuss our proposed clinical development plans. During this meeting, the FDA acknowledged our position that the

risk-benefit profile shown by the Phase I data merits further clinical evaluation of HuCNS-SC cells in NCL. We continue to be in discussions with the FDA regarding our plans for a second clinical trial in NCL, although there can be no assurance when or if such a trial will be initiated. Also in November 2009, we initiated a Phase I clinical trial to assess the safety and preliminary effectiveness of HuCNS-SC cells as a treatment for PMD. In February 2010, we enrolled and treated the first patient in this trial, and we expect it will take 12-18 months to

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complete enrollment. In addition to these clinical development activities, our HuCNS-SC cells are in preclinical development for spinal cord injury and retinal disorders. In our Liver Program, we are in preclinical development with our human liver engrafting cells. We have decided to defer initiating a clinical study of hLEC pending additional improvements to our process of isolating and purifying hLEC. 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 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 business; and an intellectual property portfolio with claims relevant to cell processing, reprogramming and manipulation, as well as to gene targeting and insertion. Much of our 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

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preclinical and clinical studies, and the content and timing of decisions made by the FDA 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 enabling 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. We compete mainly by focusing on specialty media 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, 2009, we generated revenues from the sale of specialty cell culture products of approximately $385,000. We can give no assurances that we will be able to continue to generate such revenues in the future.

Significant Events

Cellular Medicine: Clinical Development

In January 2009, we completed our Phase I clinical trial of HuCNS-SC cells in infantile and late infantile NCL (also often referred to as Batten disease).

In June 2009, we announced positive results from our NCL trial. This Phase I trial was designed primarily to assess the safety of HuCNS-SC cells as a potential cell-based therapeutic. Overall, the trial data demonstrated that the HuCNS-SC cells, the transplantation procedure and the immunosuppression regimen were well tolerated by all six patients enrolled in the trial, and that 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, we reported evidence of engraftment and long-term survival of the HuCNS-SC cells.

In November 2009, we met with the FDA to review the results of our NCL trial and to discuss our proposed clinical development plans. During this meeting, the FDA acknowledged our position that the risk-benefit profile shown by the Phase I data merits further clinical evaluation of HuCNS-SC cells in NCL. We continue to be in discussions with the FDA regarding our plans for a second NCL trial.

In November 2009, we initiated a Phase I clinical trial designed to test the safety and preliminary efficacy of our HuCNS-SC cells in PMD. This study, which is the second clinical trial of our HuCNS-SC cells in a neurodegenerative disease, is being conducted at the University of California, San Francisco (UCSF).

In February 2010, we enrolled and treated the first patient in our PMD trial at UCSF, marking the first time that neural stem cells have been transplanted as a potential treatment for a myelination disorder. We expect it will take 12-18 months to complete enrollment in this trial.

Cellular Medicine: Preclinical Development

In May 2009, our collaborators at Oregon Health & Science University (OHSU) Casey Eye Institute presented data at the Association for Research in Vision and Ophthalmology *2009 Annual Meeting* showing that our human neural stem cells, when transplanted into an animal model of retinal degeneration, engraft long-term and protect the retina from progressive degeneration. Retinal degeneration leads to loss of vision in diseases such as age-related macular degeneration.

In September 2009, our preclinical data demonstrating proof-of-concept of our HuCNS-SC cells in NCL was published in the peer-reviewed journal *Cell Stem Cell*. Our human neural stem cells, when transplanted in a mouse

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model of infantile NCL, were shown to engraft, migrate throughout the brain and continuously secrete the missing lysosomal enzyme characteristic of NCL. Moreover, mice transplanted with our neural stem cells showed statistically significant reduction in cellular waste build-up, protection of critical host neurons and delayed loss of motor function compared with the control (non-transplanted) group.

In September 2009, we received ethics committee approval at the Université Catholique de Louvain (UCL) in Belgium to initiate a clinical study evaluating hLEC as a potential cellular therapy for liver-based metabolic disorders. However, we have decided to defer initiating a clinical study of our hLEC cells pending additional refinements to our process of isolating and purifying these cells.

In October 2009, our collaborators at OHSU Casey Eye Institute presented preclinical data showing that our human neural stem cells, when transplanted into an animal model of retinal degeneration, protect cone photoreceptors (cones) in the eye from progressive degeneration and preserve visual function long term. Cones are light sensing cells that are highly concentrated within the macula of the human eye. The ability to protect these cells suggests a promising approach to treating age-related macular degeneration, the leading cause of vision loss and blindness in people over the age of 55. These findings were presented at the Society for Neuroscience *2009 Annual Meeting*.

Enabling Technologies

In April 2009, we closed the acquisition of the operations of SCS for 2,650,000 shares of our common stock and approximately $700,000 in cash. As a result, we acquired proprietary cell technologies relating to embryonic stem cells, induced pluripotent stem cells, and tissue-derived (adult) stem cells; expertise and infrastructure for providing cell-based assays for drug discovery; the SC Proven cell culture business; an intellectual property portfolio with claims relevant to cell processing, reprogramming and manipulation, as well as to gene targeting and insertion; and a European presence with operations in Cambridge, U.K.

In September 2009, we announced organizational initiatives focused on growing our SC Proven cell culture products business and advancing the development and commercialization of cell-based assay platforms for use in drug discovery and development. These initiatives included new personnel appointments and a realignment of activities within our Cambridge, U.K. and Palo Alto, California locations, as well as the wind-down of our operations in Melbourne, Australia.

In January 2010, we launched GS1-R, the first commercially available medium to enable the derivation, maintenance and growth of true (germline competent) rat embryonic stem cells. GS1-R is expected to have significant utility in the creation of genetically engineered rat models of human disease for use in academic, medical and pharmaceutical research.

In February 2010, we launched GS2-M, a new cell culture medium that enables the derivation and long-term maintenance of true mouse iPS cells. GS2-M has been shown to increase the efficiency of reprogramming pre-iPS cells to derive fully pluripotent stem cells, and to maintain mouse iPS cells in a pluripotent state in long-term culture.

Intellectual Property and Licensing Activities

In April 2009, we announced that a major international pharmaceutical company acquired a non-exclusive license to our Internal Ribosome Entry Site (IRES) technology. The IRES technology enables researchers to genetically modify any mammalian cell and to monitor the activity of a particular gene of interest 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, as well as for the successful creation of transgenic mouse and rat disease models.

In May 2009, the U.S. Patent and Trademark Office (PTO) upheld the validity of our two remaining neural stem cell patents that were subjected to reexamination proceedings commenced by Neuralstem, Inc. The decision by the PTO to uphold the two patents is final and cannot be appealed. A total of five patents were reexamined in proceedings requested by Neuralstem, and the validity of all five has been upheld by the PTO. Four of the upheld patents are the subject of litigation initiated by us against Neuralstem. In this case, we allege against Neuralstem

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various unfair competition torts and infringement of a total of six patents. These six patents collectively claim the manufacture and use of human neural stem and progenitor cells as tools for drug discovery and as therapeutic agents. In August 2009, the court approved a scheduling order for discovery and trial.

In December 2009, we received a Notice of Allowance and a Notice of Issuance from the PTO for two patents claiming technologies for the establishment and maintenance of cell pluripotency, including the reprogramming of cells to create pluripotent stem cells. These patents strengthen our intellectual property position in both the embryonic stem cell and iPS cell fields.

Financing and Stock-related Activities

In June 2009, we were added to the Russell 3000® Index, a broad market index that measures the performance of the 3000 largest companies in the United States. We are also included in the Russell 2000® Index, which is a subset of the Russell 3000 representing the small capitalization segment of the U.S. equity market.

In November 2009, we raised gross proceeds of $12,500,000 through the sale of 10,000,000 shares of common stock and warrants to purchase 4,000,000 shares of common stock. The common stock and warrants were sold in units, with each unit consisting of (i) one share of common stock and (ii) a warrant to purchase 0.4 of a share of common stock at an exercise price of $1.50 per share, and the purchase price was $1.25 per unit. We received total proceeds, net of offering expenses and placement agency fees, of approximately $11,985,000.

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 U.S. generally accepted accounting principles (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

Authoritative accounting guidance prescribes that warrants issued under contracts that could require net-cash settlement should be classified as liabilities and contracts that only provide for settlement in shares should be classified as equity. In order for a contract to be classified as equity, specific conditions must be met. These conditions are intended to identify situations in which net cash settlement could be forced upon the issuer. As part of both our November 2008 and November 2009 financings, we issued warrants with five year terms to purchase 10,344,828 and 4,000,000 shares of our common stock at $2.30 and $1.50 per share, respectively. As the contracts include the possibility of net-cash settlement, 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 is determined using the Black-Scholes-Merton (Black-Scholes) option pricing model and is affected by changes in inputs to that model including our stock price, expected stock price volatility, the contractual term, and the risk-free interest rate. Our estimate of the expected volatility is based on historical volatility. The expected term of the warrants is based on the time to expiration of the warrants from the date of measurement. Risk-free interest rates are derived from the yield on U.S. Treasury debt securities. 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, 2009, was approximately $9,677,000.

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

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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 2009 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. For the year ended December 31, 2009, employee stock-based compensation expense was approximately $4,046,000. As of December 31, 2009, total compensation cost related to unvested stock options and restricted stock units not yet recognized was approximately $5,357,000, which is expected to be recognized as expense over a weighted-average period of 2.4 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 seven years (2003 through 2009) was approximately 74%, varying from 62% to 89%. As of December 31, 2009, based on current information available to management, the vacancy rate is projected to be approximately 76% for 2010, and approximately 70% from 2011 through the end of the lease. These estimates are based on actual occupancy as of December 31, 2009, 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. If the assumed vacancy rate for 2010 to the end of the lease had been five percentage points higher or lower at December 31, 2009, then the reserve would have increased or decreased by approximately $134,000. Similarly, a 5% increase or decrease

in the operating expenses for the facility from 2010 on would have increased or decreased the reserve by approximately $95,000, and a 5% increase or decrease in the assumed average rental charge per square foot would have increased or decreased the reserve by approximately $40,000. Management does not wait for specific events to change its estimate, but instead uses its best efforts to anticipate them on a quarterly basis.

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For the year ended December 31, 2009, we recorded actual expenses against this reserve, net of subtenant income, of approximately $1,216,000. Based on management s evaluation of the factors mentioned above, and particularly the projected vacancy rates described above, we adjusted the reserve to $4,433,000 at December 31, 2009 by recording an additional $340,000 as wind-down expenses for the year ended December 31, 2009.

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, 2009, 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 of approximately $236,000 against this reserve. We believe that the estimated remaining balance of approximately $74,000 in our reserve will be sufficient to cover any remaining exit costs.

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.

Contingencies

We are currently involved in certain legal proceedings. 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 on these matters.

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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 the increasing costs associated with operating our California and Cambridge, U.K. facilities, and engaging in and expanding our operations.

Revenue

Revenue totaled approximately $993,000 in 2009, $232,000 in 2008, and $57,000 in 2007.

	2009	2008	2007	Change in 2009 Versus 2008 $	Change in 2009 Versus 2008 %	Change in 2008 Versus 2007 $	Change in 2008 Versus 2007 %
Revenue							
Licensing agreements and grants	$ 608,011	$ 231,730	$ 56,722	$ 376,281	162%	$ 175,008	309%
Product Sales	384,859			384,859	*%		
Total Revenue	992,870	231,730	56,722	761,140	328%	175,008	309%
Cost of Sales	(261,443)			(261,443)	*%		
Gross Profit	$ 731,427	$ 231,730	$ 56,722	$ 499,697	216%	$ 175,008	309%

Total revenue in 2009 was approximately $993,000, which was 328% higher than total revenue in 2008. The increase in 2009 compared to 2008 was primarily attributable to the consolidation, as of April 1, 2009, of revenues from the acquired SCS operations, which were not part of our operations in 2008.

Licensing and grant revenue for 2009 were approximately $376,000, or 162%, higher as compared to 2008. This increase was primarily attributable to approximately $387,000 in grant and licensing revenue recognized and consolidated as part of our acquisition of the SCS operations, and an increase in grant revenue of approximately $80,000 from an existing grant which we were awarded in October 2008 from the National Institute of Diabetes and Digestive and Kidney Diseases to research and develop a potential cell-based therapeutic for liver disease. Those increases were partially offset by a decrease of approximately $91,000 in licensing revenue from existing licensing agreements. In 2009, we recognized and consolidated approximately $385,000 and $261,000 as revenue from product sales and cost of product sales, respectively, in connection with of our acquisition of the SCS operations, compared to none in the same period of 2008. In 2009, approximately 8% of our product sales were in the US, and the remainder primarily in Europe.

The increase in licensing and grant revenue in 2008 as compared to 2007 was primarily attributable to the receipt of a $150,000 milestone payment under a license agreement. In addition, in October 2008, we were awarded a $305,000

grant from the National Institute of Diabetes and Digestive and Kidney Diseases to research and develop a potential cell-based therapeutic for liver disease arising from infection by the hepatitis C virus. The award is a Phase I grant under the Small Business Innovation Research (SBIR) Program of the National Institutes of Health. We recognized approximately $26,000 as grant revenue in 2008.

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Operating Expenses

Operating expense totaled approximately $30,110,000 in 2009, $26,970,000 in 2008, and $28,648,000 in 2007.

	2009	2008	2007	Change in 2009 Versus 2008 $	Change in 2009 Versus 2008 %	Change in 2008 Versus 2007 $	Change in 2008 Versus 2007 %
Operating Expenses							
Research & development	$ 19,929,592	$ 17,808,009	$ 19,937,426	$ 2,121,583	12%	$ (2,129,417)	(11)%
Selling, general & administrative	9,530,421	8,295,554	7,927,443	1,234,867	15%	368,111	5%
Wind-down expenses	649,608	866,199	783,022	(216,591)	(25)%	83,177	11%
Total operating expenses	$ 30,109,621	$ 26,969,762	$ 28,647,891	$ 3,139,859	12%	$ (1,678,129)	(6)%

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 2009) were approximately $112 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; and (iv) costs associated with cell processing and process development.

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 $19,930,000 in 2009, as compared to $17,808,000 in 2008 and $19,937,000 in 2007. At December 31, 2009, we had 59 full-time employees working in research and development and laboratory support services as compared to 43 at December 31, 2008 and 49 at December 31, 2007.

2009 versus 2008. The increase in R&D expenses of approximately $2,122,000, or 12%, in 2009 as compared to 2008 was primarily attributable to a (i) increased R&D expenses of approximately $1,842,000 from consolidating the operations acquired from SCS (these additional R&D activities are primarily focused on developing applications of our cell technologies that would enable research, such as cell-based assays for drug discovery), and (ii) an increase in personnel expenses of approximately $890,000, resulting from an increased head count in our California site to support expanded operations in our cell processing and product development programs and an increase in variable performance based compensation expense. At our California site, we had 59 full time employees in research and development and laboratory support services at December 31, 2009, as compared to 43 at December 31, 2008. These increased expenses were partially offset by a decrease of approximately $610,000 in expenses primarily attributable to

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a reduction in our use of external services and supplies related to manufacturing and testing of our cells, and to the completion of our Phase I NCL trial in January 2009.

2008 versus 2007. The decrease in R&D expenses of approximately $2,129,000, or 11%, in 2008 as compared to 2007 was primarily attributable to a decrease in external services of approximately $2,833,000; these external services were mainly related to manufacturing and testing of our cells and to clinical trial expenses. The decrease in clinical trial expenses was due mainly to the completion of enrollment and treatment in our Phase I NCL trial in January 2008. The decrease in R&D expenses was also attributable to a decrease in business travel expenses of approximately $197,000. These decreased R&D expenses were partially offset by an increase in other operating expenses primarily attributable to (i) an increase in stock-based compensation expense of $263,000, and (ii) an increase in other operating expenses of approximately $638,000, primarily attributable to the purchase of supplies.

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 $9,530,000 in 2009, compared with $8,296,000 in 2008 and $7,927,000 in 2007.

2009 versus 2008. SG&A expenses were approximately $1,235,000 higher in 2009 as compared to 2008, with approximately $693,000 of this increase due to non recurring expenses related to the acquisition of the SCS operations. Excluding these acquisition expenses, SG&A expenses were approximately $542,000, or 7%, higher in 2009 as compared to 2008. This increase was primarily attributable to (i) increased SG&A expenses of approximately $695,000 related to the consolidation of the operations acquired from SCS, (ii) an increase in personnel expenses of $264,000 primarily due to an increase in variable performance-based compensation expense, and (iii) an increase in other expenses of approximately $79,000, mainly related to investor relations. These increased expenses were partially offset by a decrease in external services of approximately $496,000, primarily attributable to a decrease in patent and legal fees.

2008 versus 2007. The increase in SG&A expenses of approximately $369,000, or 5%, in 2008 as compared to 2007 was primarily attributable to an increase in stock-based compensation expense of $431,000. In addition, net operating expenses for our vacant pilot manufacturing facility in Rhode Island increased by approximately $524,000 due to the loss of subtenant income. These increased expenses were partially offset by a decrease in external fees of $399,000, including legal and recruiting fees, and a decrease in other operating expenses of approximately $187,000.

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 $4,433,000 at December 31, 2009 and $5,513,000 at December 31, 2008. Payments net of subtenant income were recorded against this reserve of $1,216,000 in 2009, $1,293,000 in 2008, and $1,420,000 in 2007. We re-evaluated the estimate and adjusted the reserve by recording, in aggregate, additional wind-down expenses of $340,000 in 2009,

$866,000 in 2008, and $783,000 in 2007. 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.

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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, 2009, the facility lease agreement is terminated and our operations in Australia have been relocated to Cambridge, U.K. and Palo Alto, California. We recorded actual expenses of approximately $236,000 against this reserve. We believe that the estimated remaining balance of approximately $74,000 in our reserve will be sufficient to cover any remaining exit costs. 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.

Other Income (Expense)

Other income totaled approximately $2,352,000 in 2009, compared with other expense of approximately $2,349,000 in 2008 and other income of $3,568,000 in 2007.

	2009	2008	2007	Change in 2009 Versus 2008 $	Change in 2009 Versus 2008 %	Change in 2008 Versus 2007 $	Change in 2008 Versus 2007 %
Other income (expense):							
License and settlement agreement, net	$	$	$ 550,467	$	*%	$ (550,467)	(100)%
Realized gain on sale of marketable securities	406,910		715,584	406,910	*%	(715,584)	(100)%
Other than temporary impairment of marketable securities		(2,082,894)		2,082,894	(100)%	(2,082,894)	*%
Change in fair value of warrant liability	1,898,603	(937,241)		2,835,844	(303)%	(937,241)	*%
Interest income	67,345	803,095	2,459,820	(735,750)	(92)%	(1,656,725)	(67)%
Interest expense	(110,807)	(109,762)	(123,606)	(1,045)	1%	13,844	(11)%
Other income (expense), net	89,732	(21,943)	(33,899)	111,675	(508)%	11,956	(35)%
	$ 2,351,783	$ (2,348,745)	$ 3,568,366	$ 4,700,528	(200)%	$ (5,917,111)	(166)%

Total other
income
(expense), net

* Calculation cannot be performed or is not meaningful.

License and Settlement Agreement

In July 2005, we entered into an agreement with ReNeuron Limited, a wholly owned subsidiary of ReNeuron Group plc, a listed UK corporation (collectively referred to as ReNeuron). As part of the agreement, we granted ReNeuron a license that allows ReNeuron to exploit their 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. (NeuroSpheres), an Alberta corporation

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from which we have licensed some of the patent rights that are the subject of the agreement with ReNeuron), and subsequently, in 2006 and 2007, we received approximately 1,261,000 more shares, net of approximately 18,000 shares that were transferred to NeuroSpheres, as a result of certain anti-dilution provisions in the agreement.

Other income from the license and settlement agreement totaled approximately $550,000 in 2007, which was the fair value of the ReNeuron shares we received under such agreement, net of legal fees and the value of the shares that were transferred to NeuroSpheres. No income from the license and settlement agreement was recognized for the years 2009 and 2008. See Note 2 Financial Instruments ReNeuron License Agreement in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information regarding this transaction.

Gain on Sale of Marketable Equity securities

The gain on sale of marketable equity securities of approximately $407,000 in 2009 and $716,000 in 2007 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.

Other than temporary Impairment of Marketable Securities

As of December 31, 2008, we determined that our investment in ReNeuron shares (marketable equity securities) was impaired and that such impairment was other than temporary. We considered various criteria, including the duration of the impairment and our intent to liquidate all or part of this investment within a reasonably short period of time. For the year ended December 31, 2008, we recorded a loss of $2,082,894, which is the difference between the investment s carrying value and its quoted market price at that date. No other than temporary impairment was recognized during the years ended December 31, 2009 and 2007. 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 Statement of Operations. The outstanding warrants were issued as part of both our November 2008 and November 2009 financings and were classified as a liability. The fair value of the outstanding warrants is determined using the Black-Scholes-Merton (Black-Scholes) option pricing model and is affected by changes in inputs to that model including our stock price, expected stock price volatility, the contractual term, and the risk-free interest rate. 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 Statement 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 $67,000 in 2009, $803,000 in 2008, and $2,460,000 in 2007. The decrease in interest income in 2009 as compared to 2008 was primarily attributable to lower average yields. The decrease in interest income in 2008 as compared to 2007 was primarily attributable to lower average yields and a lower average bank balance in 2008.

Interest Expense

Interest expense was approximately $111,000 in 2009, $110,000 in 2008, and $124,000 in 2007. Interest expense in 2009 as compared to 2008 was relatively flat. The decrease in 2008 as compared to 2007 was attributable to lower

outstanding debt and capital lease balances. 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.

Other Income (Expense), net

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

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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. Other expense, net for 2008 and 2007 was approximately $22,000 and $34,000, respectively, primarily related to the payment of 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 collaborative agreements, research grants, license fees, and interest income.

	2009	2008	2007	Change in 2009 Versus 2008 $	Change in 2009 Versus 2008 %	Change in 2008 Versus 2007 $	Change in 2008 Versus 2007 %
At December 31:							
Cash and highly liquid investments(1)	$ 38,617,977	$ 34,037,775	$ 37,645,085	$ 4,580,202	13%	$ (3,607,310)	(10)%
Year ended December 31:							
Net cash used in operating activities	$ (24,682,669)	$ (22,740,421)	$ (20,856,746)	$ (1,942,248)	9%	$ (1,883,675)	9%
Net cash provided by (used in) investing activities	$ 3,731,991	$ 24,223,629	$ (27,155,656)	$ (20,491,638)	(85)%	$ 51,379,285	(189)%
Net cash provided by financing activities	$ 29,786,280	$ 18,800,609	$ 5,976,042	$ 10,985,671	58%	$ 12,824,567	215%

(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 $197,000 and $187,000 as of December 31, 2009 and 2008, respectively, and approximately 4,822,000 ordinary shares of ReNeuron with a market value in aggregate of approximately $1,961,000 as of December 31, 2007, are excluded from the amounts above. 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 $38,618,000 at December 31, 2009, compared with approximately $34,038,000 at December 31, 2008, and $37,645,000 at December 31, 2007. The increase in cash and highly liquid investments of approximately $4,580,000, or 13%, in 2009 as compared to 2008 was primarily attributable to cash generated by financing activities and partially offset by cash used in operating activities. The

decrease in our cash and highly liquid investments of approximately $3,607,000, or 10%, in 2008 as compared to 2007 was primarily attributable to cash used in operating activities and partially offset by cash generated from financing activities.

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 $24,683,000 in 2009, $22,740,000 in 2008, and $20,857,000 in 2007. The increase in cash used in operating activities in 2009 compared to 2008 was primarily attributable to the increased operating expenses, which were partially offset by increased revenue from the consolidation of the SCS operations. See Note 5 Acquisition of SCS Operations in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information. The increase in cash used in operating activities in 2008 compared to 2007 was primarily attributable to the timing of cash payments and receipts for various operating assets and liabilities such as accounts payable, accrued expenses, and accounts receivable. This increased use of working capital in 2008 was partially offset by a decrease in operating loss in 2008 as compared to 2007. The decrease in operating loss from approximately $28,591,000 in 2007 to approximately $26,738,000 in 2008 was primarily attributable to the decrease in R&D expenses in 2008 as compared to 2007.

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Net Cash Used in Investing Activities

The decrease of $20,492,000, or 85%, in net cash provided by investing activities in 2009 as compared to 2008 was primarily attributable to a lower amount of investments (marketable debt securities) held to maturity in 2009 than in 2008. 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). In 2008, we received net proceeds of approximately $23,859,000 as marketable debt securities we held reached maturity. The increase of approximately $51,379,000 in net cash provided by investing activities in 2008 as compared to 2007 was primarily attributable to larger purchases of marketable securities in 2007 as compared to 2008 and larger amounts of marketable debt securities held to maturity in 2008 as compared to 2007. In 2008, we received net proceeds of approximately $23,859,000 as marketable debt securities we held reached maturity, while in 2007, we made net purchases of approximately $27,862,000 of marketable debt securities. In addition, in December 2008, we made a secured loan of 200,000 GBP (approximately $298,000) to SCS in connection with the acquisition transaction.

Net Cash Provided by Financing Activities

The increase in net cash provided by financing activities of approximately $10,986,000, or 58%, in 2009 as compared to 2008 was primarily attributable to (i) sales, through our sales agreements with Cantor Fitzgerald & Co.(Cantor), in 2009, of 9,817,400 shares of our common stock at an average price per share of $1.88 for total proceeds net of offering expenses and placement agency fees of approximately $17,618,000 and (ii) the sale, in November 2009, of 10,000,000 units at a price of $1.25 per unit, for total proceeds net of offering expenses and placement agency fees of approximately $11,985,000; each unit consisted of one share of our common stock and a warrant to purchase 0.4 shares of our common stock at an exercise price of $1.50 per share. The increase in net cash provided by financing activities of approximately $12,825,000, or 215%, in 2008 as compared to 2007 was primarily attributable to the sale, in November 2008, of 13,793,104 units at a price of $1.45 per unit; each unit consisted of one share of our common stock and a warrant to purchase 0.75 shares of our common stock at an exercise price of $2.30 per share. We received approximately $18,637,000 net of offering expenses and placement agency fees. See Note 14, Common Stock, in the Notes to the Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information.

Listed below are key financing transactions entered into by us in the last three years:

In November 2009, we sold 10,000,000 units to institutional investors at a price of $1.25 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 $1.50 per share, were offered as a registered direct offering under an effective shelf registration statement previously filed with and declared effective by the Securities and Exchange Commission. We received total proceeds net of offering expenses and placement agency fees of approximately $11,985,000.

In June 2009, we filed a prospectus supplement that relates to the issuance and sale of up to $30,000,000 of our common stock, from time to time through a sales agreement with our sales agent Cantor. The prospectus is a part of a registration statement that we filed with the SEC on June 25, 2008, using a shelf registration process. Under this shelf registration process, we may offer to sell in one or more offerings up to a total dollar amount of $100,000,000. In 2009, we sold a total of 1,830,000 shares of our common stock under this June 2009 sales agreement with Cantor at an average price per share of $1.80 for gross proceeds of approximately $3,291,000. Cantor is paid compensation equal to 3.0% of the gross proceeds pursuant to the terms of the agreement.

In November 2008, we sold 13,793,104 units to institutional investors at a price of $1.45 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 $2.30 per share, were offered as a registered

direct offering under an effective shelf registration statement previously filed with and declared effective by the Securities and Exchange Commission. We received total proceeds net of offering expenses and placement agency fees of approximately $18,637,000.

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In December 2006, we filed a prospectus supplement announcing the entry of a sales agreement with Cantor under which up to 10,000,000 shares may be sold from time to time under a shelf registration statement. In 2007, 2008 and 2009, we sold a total of 10,000,000 shares of our common stock under this agreement at an average price per share of $2.06 for gross proceeds of approximately $20,555,000. Cantor is paid compensation equal to 5.0% of the gross proceeds pursuant to the terms of the agreement.

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 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. On June 25, 2008 we filed with the SEC a universal shelf registration statement, declared effective July 18, 2008, which permits us to issue up to $100 million worth of registered debt and 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. As of March 10, 2010, we had approximately $48 million under our universal shelf registration statement available for issuing debt or equity securities; approximately $30 million of this $48 million has been reserved for the potential exercise of the warrants issued in connection with our November 2008 and November 2009 financings. In July 2008, we deregistered the remaining unissued shares (approximately $59 million worth of common stock) available under the shelf registration statement we had filed in October 2005. The 2005 shelf permitted the issuance of up to $100 million of registered shares of common stock. Also in July 2008, we amended our sales agreement with Cantor to allow for sales under our universal shelf registration rather than the 2005 shelf registration.

The source, timing and availability of any future financing will depend principally upon market conditions 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.

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Operating Leases California

We have leased an approximately 68,000 square foot facility located at the Stanford Research Park in Palo Alto, California. At December 31, 2009, we had a space-sharing agreement covering approximately 10,451 square feet of this facility. We receive base payments plus a proportionate share of the operating expenses based on square footage over the term of the space-sharing agreement. For the year 2010, we expect to receive, in aggregate, approximately $550,000 as part of the space-sharing agreement. As a result of the above transactions, our estimated net cash outlay for the rent and operating expenses of this facility will be approximately $2,999,000 for 2010.

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 2010, we expect to pay approximately $1,172,000 in operating lease payments and estimated operating expenses of approximately $578,000, before receipt of sub-tenant income. For the year 2010, we expect to receive, in aggregate, approximately $314,000 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 $1,436,000 for 2010.

Operating Leases United Kingdom

On April 1, 2009, as part of our acquisition of the operations of SCS, we acquired operations in Cambridge, U.K.. As of April 2009, our wholly-owned subsidiary, Stem Cell Sciences (UK) Ltd, had two lease agreements with Babraham Bioscience Technologies Ltd. (BBT) for approximately 3,900 square feet of office and lab space in aggregate in two buildings of the Babraham Research Campus in Cambridge, U.K. One of these two leases, for approximately 2,000 square feet, expired by its terms on February 28, 2010. The second, for approximately 1,900 square feet, has an initial term until March 2011, with an option, at our election, to extend the term for an additional five years. In February 2010, in order to consolidate our operations into a single building at the research campus, we entered into a new lease agreement with BBT effective March 1, 2010, for approximately 3,240 square feet. The initial term of this new lease will continue until March 2011, with an option, at our election, to extend the term for an additional two years. The two currently effective Cambridge leases cover in aggregate approximately 5,000 square feet. We expect to pay approximately 134,000 GBP as rental payments for 2010 in aggregate for the Cambridge leases. StemCells, Inc. is a guarantor of Stem Cell Sciences (UK) Ltd s obligations under both leases.

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

In July 2008, we amended our 1997 and 2000 license agreements with NeuroSpheres. NeuroSpheres is the holder of certain patents exclusively licensed by us, including the six patents that are the basis of our patent infringement suits against Neuralstem. As part 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. At this time, we cannot estimate the

likely total costs of our pending litigation with Neuralstem, given the unpredictable nature of such proceedings, or the total amount we may ultimately owe under the NeuroSpheres license agreements. However, the ability to apply the offsets will run for the entire term of each license agreement. The estimated balance for future offsets is included under Other assets, non-current on our Consolidated Balance Sheets. We have concluded that the estimated balance of $750,000 as of December 31, 2009 is a fair estimate and realizable against future milestone and royalty payments to NeuroSpheres, and that litigation costs incurred after December 31, 2009 will be expensed as incurred. Management will reevaluate this estimate on a quarterly basis based on actual costs and other relevant factors.

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Contractual Obligations

In the table below, we set forth our legally binding and enforceable contractual cash obligations at December 31, 2009:

	Total Obligations at 12/31/09	Payable in 2010	Payable in 2011	Payable in 2012	Payable in 2013	Payable in 2014	Payable in 2015 and Beyond
Operating lease payments(1)	$ 8,061,147	$ 3,491,887	$ 2,664,963	$ 1,171,875	$ 732,422	$	$
Capital lease (equipment)	171,793	80,073	73,391	18,329			
Bonds Payable (principal & interest)(2)	1,099,991	242,559	242,321	240,666	237,593	136,852	
Total contractual cash obligations	$ 9,332,931	$ 3,814,519	$ 2,980,675	$ 1,430,870	$ 970,015	$ 136,852	$

(1) Operating lease payments exclude space-sharing and 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 65,000 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 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, 2009.

Recent Accounting Pronouncements

In January 2010, the Financial Accounting Standards Board (FASB), issued new standards to update and amend existing standards on Fair Value Measurements and Disclosures. These standards require new disclosures on the amount and reason for transfers in and out of Level 1 and Level 2 fair value measurements. The standards also require disclosure of activities in Level 3 fair value measurements that use significant unobservable inputs, including purchases, sales, issuances, and settlements. The standards also clarify existing disclosure requirements on levels of disaggregation, which requires fair value measurement disclosure for each class of assets and liabilities, and

disclosures about valuation techniques and inputs used to measure fair value of recurring and non recurring fair value measurements that fall in ether Level 2 or Level 3. The new disclosures and clarifications of existing disclosures are effective for our interim and annual reporting periods beginning January 1, 2010, except for the disclosures about purchases, sales, issuances and settlements in the roll forward activity in Level 3 fair value measurements. Those disclosures are effective for our fiscal year beginning January 1, 2011. We do not expect the adoption of these new standards on January 1, 2011 to have a material effect on our consolidated financial condition and results of operations.

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, restricted cash, and marketable debt securities. The balance of our interest-bearing portfolio was approximately $39,396,000, or 76%, of total assets at December 31, 2009 and $34,031,000, or 85%, of total assets at December 31, 2008. Interest income earned on these assets was approximately $67,000 in 2009 and $803,000 in 2008. Our interest income is sensitive to changes in the general level of interest rates, primarily U.S. interest rates. At December 31, 2009, our debt securities

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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 Limited, a wholly owned subsidiary of ReNeuron Group plc, a listed UK corporation (collectively referred to as ReNeuron). As part of the agreement, we granted ReNeuron a license that allows ReNeuron to exploit their 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), 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 $3,077,000. In February and March of 2009, we sold in aggregate, approximately 2,900,000 more shares and received net proceeds of approximately $510,000 for a realized gain of approximately $398,000. As of December 31, 2009, we held approximately 1,922,000 shares of ReNeuron as marketable equity securities with a carrying and fair market value of approximately $197,000.

Changes in market 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 determined to be other than temporary. At December 31, 2008, after considering various criteria, including, the duration of the impairment and our intent to liquidate all or part of this investment within a reasonably short period of time, we determined that the impairment of our investment in ReNeuron was other than temporary. For the year ended December 31, 2008, we recorded, on our Consolidated Statements of Operations under Other Income (expense), a loss of $2,082,894, which is the difference between the investment s carrying value and its quoted market price at that date. No other than temporary impairment was recognized during the year ended December 31, 2009.

Company/Stock Symbol	Exchange	Associated Risks	No. of Shares at December 31, 2009	Share Price at December 31, 2009 in GBP(£)	Exchange Rate at December 31, 2009 1 GBP = USD	Market Value in USD at December 31, 2009	Expected Future Cash Flows
ReNeuron Group plc/RENE	AIM (AIM is the	Lower share price	1,921,924	0.0634	1.6167	$ 196,995	(1)

	Foreign currency
London Stock Exchange s Alternative Investment Market)	translation Liquidity Bankruptcy

(1) It is our intention to liquidate this investment when we can do so at prices acceptable to us. Although we are not legally restricted from selling the stock, the share price is subject to change and the volume traded has often been very small since the stock was listed on the AIM on August 12, 2005. The performance of ReNeuron Group plc stock since its listing does not predict its future value.

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Another foreign exchange risk is our exposure to foreign currency exchange rates on the earnings, cash flows and financial position of our foreign subsidiaries in the United Kingdom and Australia. Financial statements of our foreign subsidiaries 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 loss within shareholders equity under the caption Unrealized 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 $200,000 increase in our net loss reported for the year ended December 31, 2009. 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

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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, 2009 and 2008, 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, 2009. 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, 2009 and 2008, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2009, 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, 2009, 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 10, 2010 expressed an unqualified opinion thereon.

/s/ GRANT THORNTON LLP

San Francisco, California
March 10, 2010

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StemCells, Inc.

Consolidated Balance Sheets

	December 31, 2009	2008
ASSETS		
Current assets:		
Cash and cash equivalents	$ 38,617,977	$ 30,042,986
Marketable securities, current	196,995	4,181,592
Trade receivables	87,019	
Other receivables	679,034	164,204
Note receivable		298,032
Prepaid assets	560,144	645,242
Total current assets	40,141,169	35,332,056
Property, plant and equipment, net	2,856,695	3,173,468
Other assets, non-current	2,525,185	2,079,278
Goodwill	2,019,679	
Other intangible assets, net	3,647,596	645,538
Total assets	$ 51,190,324	$ 41,230,340
LIABILITIES AND STOCKHOLDERS EQUITY		
Current liabilities:		
Accounts payable	$ 890,582	$ 1,078,123
Accrued expenses and other current liabilities	3,760,438	2,261,245
Accrued wind-down expenses, current	1,449,810	1,420,378
Deferred revenue, current	119,542	43,909
Capital lease obligation, current	68,000	18,739
Deferred rent, current	80,392	346,930
Bonds payable, current	161,250	149,167
Total current liabilities	6,530,014	5,318,491
Capital lease obligation, non-current	85,826	6,529
Bonds payable, non-current	698,750	860,000
Fair value of warrant liability	9,676,968	8,439,931
Deposits and other long-term liabilities	466,211	466,211
Accrued wind-down expenses, non-current	3,056,675	4,092,939
Deferred rent, non-current	50,600	90,215
Deferred revenue, non-current	130,213	147,039
Total liabilities	20,695,257	19,421,355
Commitments and contingencies (Note 12)		
Stockholders equity:		
	1,183,495	949,455

Common stock, $0.01 par value; 250,000,000 shares authorized; issued and outstanding 118,349,587 at December 31, 2009 and 94,945,603 at December 31, 2008		
Additional paid-in capital	314,944,784	279,868,802
Accumulated deficit	(286,027,935)	(259,001,524)
Accumulated other comprehensive income (loss)	394,723	(7,748)
Total stockholders equity	30,495,067	21,808,985
Total liabilities and stockholders equity	$ 51,190,324	$ 41,230,340

See Notes to Consolidated Financial Statements.

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StemCells, Inc.

Consolidated Statements of Operations

	Year Ended December 31,		
	2009	2008	2007
Revenue:			
Revenue from licensing agreements and grants	$ 608,011	$ 231,730	$ 56,722
Revenue from product sales	384,859		
Total Revenue	992,870	231,730	56,722
Cost of product sales	(261,443)		
Gross Profit	731,427	231,730	56,722
Operating expenses:			
Research and development	19,929,592	17,808,009	19,937,426
Selling, general and administrative	9,530,421	8,295,554	7,927,443
Wind-down expenses	649,608	866,199	783,022
Total operating expenses	30,109,621	26,969,762	28,647,891
Operating loss	(29,378,194)	(26,738,032)	(28,591,169)
Other income (expense):			
License and settlement agreement, net			550,467
Realized gain on sale of marketable securities	406,910		715,584
Other than temporary impairment of marketable securities		(2,082,894)	
Change in fair value of warrant liability	1,898,603	(937,241)	
Interest income	67,345	803,095	2,459,820
Interest expense	(110,807)	(109,762)	(123,606)
Other income (expense), net	89,732	(21,943)	(33,898)
Total other income (expense), net	2,351,783	(2,348,745)	3,568,367
Net loss	$ (27,026,411)	$ (29,086,777)	$ (25,022,802)
Basic and diluted net loss per share	$ (0.25)	$ (0.35)	$ (0.31)
Shares used to compute basic and diluted loss per share	106,045,961	82,716,455	79,772,351

See Notes to Consolidated Financial Statements.

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StemCells, Inc.

Consolidated Statements of Stockholders Equity

	Common Stock		Additional Paid-in	Accumulated	Accumulated Other Comprehensive Income	Total Stockholders
	Shares	Amount	Capital	Deficit	(Loss)	Equity
Balances, December 31, 2006	78,046,304	$ 780,462	$ 255,299,508	$ (204,891,945)	$ 3,187,978	$ 54,376,003
Comprehensive loss						
Net loss				(25,022,802)		(25,022,802)
Change in unrealized loss on securities available-for-sale					(3,471,852)	(3,471,852)
Comprehensive loss						(28,494,654)
Issuance of common stock, net of issuance cost of $297,465	1,807,000	18,070	4,816,983			4,835,053
Common stock issued for licensing agreements	3,865	39	9,961			10,000
Common stock issued pursuant to employee benefit plan	73,074	731	172,429			173,160
Compensation expense from grant of options and stock (fair value)			3,008,315			3,008,315
Exercise of employee stock options	175,186	1,752	208,521			210,273
Exercise of warrants	575,658	5,756	1,087,994			1,093,750
Balances, December 31, 2007	80,681,087	806,810	264,603,711	(229,914,747)	(283,874)	35,211,900
Comprehensive loss						
Net loss				(29,086,777)		(29,086,777)
Change in unrealized loss on securities available-for-sale					276,126	276,126

Comprehensive loss						(28,810,651)
Issuance of common stock and warrants, net of issuance cost of $1,432,539	13,998,704	139,987	11,184,188			11,324,175
Common stock issued for licensing agreements	6,924	69	9,931			10,000
Common stock issued pursuant to employee benefit plan	144,188	1,442	189,724			191,166
Compensation expense from grant of options, restricted stock units and stock (fair value)			3,754,871			3,754,871
Exercise of employee and director stock options	114,700	1,147	126,377			127,524
Balances, December 31, 2008	94,945,603	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 loss 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	19,817,400	198,174	26,269,140			26,467,314
Common stock issued for acquisition of SCS	2,650,000	26,500	4,399,000			4,425,500
Common stock issued for licensing agreements	5,900	59	9,941			10,000
Common stock issued pursuant to employee benefit plan	98,475	985	155,947			156,932
			4,046,339			4,046,339

Compensation expense from grant of options, restricted stock units and stock (fair value)						
Exercise of employee and director stock options	315,277	3,152	249,832			252,984
Exercise and net settlement of restricted stock units	342,458	3,425	(383,973)			(380,548)
Exercise of warrants	174,474	1,745	329,756			331,501
Balances, December 31, 2009	118,349,587	$ 1,183,495	$ 314,944,784	$ (286,027,935)	$ 394,723	$ 30,495,067

See Notes to Consolidated Financial Statements.

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StemCells, Inc.

Consolidated Statements of Cash Flows

	Year Ended December 31,		
	2009	**2008**	**2007**
Cash flows from operating activities:			
Net loss	$ (27,026,411)	$ (29,086,777)	$ (25,022,802)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	1,694,490	1,186,428	1,174,510
Stock-based compensation	4,203,270	3,946,037	3,181,475
Gain on disposal of fixed assets			(1,500)
Non-cash income from license and settlement agreement, net			(550,467)
Gain on sale of marketable securities	(406,910)		(715,584)
Other than temporary impairment of marketable securities		2,082,894	
Change in fair value of warrant liability	(1,898,603)	937,241	
Changes in operating assets and liabilities:			
Other receivables	275,726	100,427	218,219
Prepaid assets	129,747	387,240	86,985
Other assets	(436,424)	(358,449)	19,532
Accounts payable and accrued expenses	477,170	(936,479)	1,601,180
Accrued wind-down expenses	(1,027,242)	(630,174)	(606,766)
Deferred revenue	(361,329)	(16,826)	10,257
Deferred rent	(306,153)	(290,390)	(232,198)
Deposits and other long-term liabilities		(61,593)	(19,587)
Net cash used in operating activities	(24,682,669)	(22,740,421)	(20,856,746)
Cash flows from investing activities:			
Purchases of marketable debt securities	(4,976,959)	(4,822,684)	(37,029,744)
Sales or maturities of marketable debt securities	8,994,806	28,681,708	9,168,183
Proceeds from sales of marketable equity securities	510,213		3,074,654
Repayment received under note receivable		1,000,000	
Advance made under note receivable	(79,829)	(298,032)	(1,000,000)
Purchases of property, plant and equipment	(701,240)	(312,988)	(1,319,374)
Purchase of intangibles and other assets	(15,000)	(24,375)	(49,375)
Net cash provided by (used in) investing activities	3,731,991	24,223,629	(27,155,656)
Cash flows from financing activities:			
Proceeds from issuance of common stock, net	29,602,953	18,826,865	4,835,053
Proceeds from the exercise of stock options	252,984	127,524	210,273
Payments related to net share issuance of stock based awards	(380,548)		
Proceeds from the exercise of warrants	331,501		1,093,750
Proceeds (repayments) of capital lease obligations	128,557	(17,531)	42,799
Repayments of bonds payable	(149,167)	(136,249)	(205,833)

Net cash provided by financing activities	29,786,280	18,800,609	5,976,042
Increase (decrease) in cash and cash equivalents	8,835,602	20,283,817	(42,036,360)
Cash and cash equivalents at beginning of year	30,042,986	9,759,169	51,795,529
Effects of foreign currency rate changes on cash	(260,611)		
Cash and cash equivalents at end of the year	$ 38,617,977	$ 30,042,986	$ 9,759,169
Supplemental disclosure of cash flow information:			
Interest paid	$ 110,807	$ 109,762	$ 123,606
Supplemental schedule of non-cash investing and financing activities:			
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	$ 10,000	$ 10,000

(1) On April 1, 2009, we acquired the operations of Stem Cell Sciences Plc (SCS). As consideration, we issued to SCS 2,650,000 shares of common stock with a closing price of $1.67 per share and waived certain commitments of SCS to repay approximately $709,000 in principal and accrued interest owed to us.

(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 5,900 in 2009, 6,924 in 2008 and 3,865 in 2007 to Cal Tech.

See Notes to Consolidated Financial Statements.

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StemCells, Inc.

Notes to Consolidated Financial Statements
December 31, 2009

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 $286 million at December 31, 2009. 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. 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.

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 (UK) 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 17, 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).

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StemCells, Inc.

Notes to Consolidated Financial Statements (Continued)

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. At December 31, 2008, after considering various criteria, including the duration of the impairment and our intent to liquidate all or part of our investment within a reasonably short period of time, we determined that the impairment of our investment in ordinary shares of ReNeuron (marketable equity securities) was other than temporary (see Note 2, Financial Instruments). For the year ended December 31, 2008, we recorded on our Consolidated Statements of Operations under Other income (expense), net a loss of $2,082,894, which is the difference between the investment s carrying value and its quoted market price at that date. No other than temporary impairment was recognized during the years ended December 31, 2009 and 2007.

Other Receivables

Our receivables generally consist of interest income on our financial instruments, revenue from licensing agreements, and rent from our sub-lease tenants.

Estimated Fair Value of Financial Instruments

The estimated fair value of cash and cash equivalents, other receivables, accounts payable and the current portion of the bonds payable approximates their carrying values due to the short maturities of these instruments. The estimated fair value of our marketable debt securities approximates its carrying value based on current rates available to us for similar debt securities. 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.

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StemCells, Inc.

Notes to Consolidated Financial Statements (Continued)

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 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 2009, and determined that there was no impairment of goodwill. Intangible assets with finite useful lives are amortized generally on a straight-line basis over the periods benefited. Intangible assets with finite useful lives 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

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. No such impairment was recognized during the years ended December 31, 2009, 2008 and 2007.

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 warrants issued under contracts that could require net-cash settlement should be classified as liabilities and contracts that only provide for settlement in shares should be classified as equity. In order for a contract to be classified as equity specific conditions must be met; these conditions are intended to identify situations in which net cash settlement could be forced upon the issuer. As part of both our November 2008 and November 2009 financings, we issued warrants with five year terms to purchase 10,344,828 and 4,000,000 shares of

our common stock at $2.30 and $1.50 per share, respectively. As the warrant agreements did not meet the specific conditions for it to be classified as equity, 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 is determined using the Black-Scholes-Merton (Black-Scholes) option pricing model and is affected by changes in inputs to that model including our stock price, expected stock price volatility, the contractual term, and the risk-free interest rate. 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.

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StemCells, Inc.

Notes to Consolidated Financial Statements (Continued)

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.

Government grants We currently recognize revenue resulting from government grants when either incurring reimbursable expenses directly related to the particular research plan or upon the completion of certain development milestones as defined within the terms of the relevant 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.

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 to employees and non-employees. The estimated fair value is calculated using the Black-Scholes model. For employees, the compensation cost we record for these awards are based on their grant-date fair value as calculated and amortized over their vesting period. To record the compensation cost for non-employees, the estimated fair value is re-measured at each reporting date and is amortized over the remaining service period. 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.

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StemCells, Inc.

Notes to Consolidated Financial Statements (Continued)

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:

	2009	2008	2007
Net loss	$ (27,026,411)	$ (29,086,777)	$ (25,022,802)
Weighted average shares outstanding used to compute basic and diluted net loss per share	106,045,961	82,716,455	79,772,351
Basic and diluted net loss per share	$ (0.25)	$ (0.35)	$ (0.31)

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:

	2009	2008	2007
Outstanding options	9,260,812	8,340,530	9,028,810
Restricted stock units	2,437,901	1,650,000	

Outstanding warrants	14,344,828	11,599,828	1,355,000
Total	26,043,541	21,590,358	10,383,810

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, 2009, 2008 and 2007 has been reflected in the Consolidated Statements of Stockholders Equity.

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StemCells, Inc.

Notes to Consolidated Financial Statements (Continued)

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

	2009	2008	2007
Net unrealized gain (loss) on marketable securities	$ 122,539	$ (7,748)	$ (283,874)
Unrealized gain on foreign currency translation	272,184		
Accumulated other comprehensive income (loss)	$ 394,723	$ (7,748)	$ (283,874)

The activity in OCI is as follows:

	2009	2008	2007
Net change in unrealized gains and losses on marketable securities	$ 130,287	$ (1,806,768)	$ (2,756,268)
Recognition in net loss, other than temporary impairment of marketable securities		2,082,894	
Reclassification adjustment for gains on marketable securities included in net income			(715,584)
Net change in unrealized gains and losses on foreign currency translations	272,184		
Other comprehensive income (loss)	$ 402,471	$ 276,126	$ (3,471,852)

Recent Accounting Pronouncements

In January 2010, the Financial Accounting Standards Board (FASB), issued new standards to update and amend existing standards on Fair Value Measurements and Disclosures. These standards require new disclosures on the amount and reason for transfers in and out of Level 1 and Level 2 fair value measurements. The standards also require disclosure of activities in Level 3 fair value measurements that use significant unobservable inputs, including purchases, sales, issuances, and settlements. The standards also clarify existing disclosure requirements on levels of disaggregation, which requires fair value measurement disclosure for each class of assets and liabilities, and disclosures about valuation techniques and inputs used to measure fair value of recurring and non recurring fair value measurements that fall in ether Level 2 or Level 3. The new disclosures and clarifications of existing disclosures are effective for our interim and annual reporting periods beginning January 1, 2010, except for the disclosures about purchases, sales, issuances and settlements in the roll forward activity in Level 3 fair value measurements. Those disclosures are effective for our fiscal year beginning January 1, 2011. We do not expect the adoption of these new standards to have a material effect on our consolidated financial condition and results of operations.

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StemCells, Inc.

Notes to Consolidated Financial Statements (Continued)

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, 2009				
Cash	$ 1,064,148	$	$	$ 1,064,148
Cash equivalents (money market accounts)	37,553,829			37,553,829
Marketable equity securities, current	74,456	122,539		196,995
Total cash, cash equivalents, and marketable securities	$ 38,692,433	$ 122,539	$	$ 38,814,972
December 31, 2008				
Cash	$ 243,883	$	$	$ 243,883
Cash equivalents (money market accounts)	29,799,103			29,799,103
Marketable debt securities, current (maturity within 1 year)	4,002,537		(7,748)	3,994,789
Marketable equity securities, current	186,803			186,803
Total cash, cash equivalents, and marketable securities	$ 34,232,326	$	$ (7,748)	$ 34,224,578

At December 31, 2009, our investment in marketable debt securities were in money market accounts 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. In December 2009, we sold short-term U.S. Treasury debt securities with a face value of $5,000,000 for a realized gain of approximately $9,000. From time to time, we carry cash balances in excess of federally insured limits. Our cash balance at December 31, 2009 includes approximately $734,000 held in foreign currency (primarily U.K. pounds) by our U.K. subsidiary.

Our investment in marketable equity securities consists of ordinary shares of ReNeuron Group plc, a publicly listed UK corporation (ReNeuron). In July 2005, we entered into an agreement with ReNeuron. As part of the agreement, we granted ReNeuron a license that allows ReNeuron to exploit their 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), 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 $3,077,000, and we recognized a realized gain of approximately $716,000 from this transaction. In February and March of 2009, we sold in aggregate, approximately 2,900,000 more shares and received net proceeds of approximately $510,000, and we recognized a realized gain of approximately $398,000 from this transaction. As of December 31, 2009, we held approximately 1,922,000 shares of ReNeuron as marketable equity securities with a carrying and fair market value of approximately $197,000.

If the 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

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StemCells, Inc.

Notes to Consolidated Financial Statements (Continued)

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. At December 31, 2008, after considering various criteria, including the duration of the impairment and our intent to liquidate all or part of our investment within a reasonably short period of time, we determined that the impairment of our investment in ordinary shares of ReNeuron (marketable equity securities), was other than temporary. For the year ended December 31, 2008, we recorded on our Consolidated Statements of Operations under Other Income (expense) a loss of $2,082,894, which is the difference between the investment s carrying value and its quoted market price at that date. No other than temporary impairment was recognized during the years ended December 31, 2009 and 2007.

Changes in fair value as a result of changes in market price per share or the exchange rate between the US 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, 2009.

Note Receivable

In December 2007, we committed to make a secured loan of up to $3.8 million to Progenitor Cell Therapy, LLC (PCT) in return for a period of exclusivity to allow for due diligence and negotiation of a possible acquisition transaction. Of this amount, $1.0 million was lent and outstanding at December 31, 2007 with the maturity date within twelve months from the effective date of the loan. In March 2008, we terminated discussions to acquire PCT. In April 2008, the loan was repaid in full in accordance with its terms.

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

Effective January 1, 2008, we disclose fair value measurement of our assets and liabilities, pursuant to a new accounting standard that defines fair value, establishes a framework for measuring fair value, and expands disclosures about fair value measurements. As defined, fair value is 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.

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StemCells, Inc.

Notes to Consolidated Financial Statements (Continued)

Assets measured at fair value as of December 31, 2009 and 2008 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. We currently do not have any Level 3 financial assets or liabilities.

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)	As of December 31, 2009
Assets			
Cash Equivalents:			
Money market funds	$ 316,974	$	$ 316,974
U.S. Treasury obligations	37,236,855		37,236,855
Marketable Securities:			
Equity securities	196,995		196,995
Total assets	$ 37,750,824	$	$ 37,750,824
Liabilities			
Bond obligation	$	$ 860,000	$ 860,000

Note 4. Property, Plant and Equipment

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

	2009	2008
Building and improvements	$ 3,422,002	$ 3,404,969
Machinery and equipment	7,322,195	6,308,603
Furniture and fixtures	377,808	369,068
	11,122,005	10,082,640
Less accumulated depreciation and amortization	(8,265,310)	(6,909,172)

Property, plant and equipment, net	$ 2,856,695	$ 3,173,468

Depreciation expense was approximately $1,364,000 in 2009, $1,045,000 in 2008, and $1,012,000 in 2007.

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.

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StemCells, Inc.

Notes to Consolidated Financial Statements (Continued)

As consideration for the acquired operations, we issued to SCS 2,650,000 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 $1.67 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	13 to 19
Trade name	310,000	15
Goodwill	2,139,000	N/A
Total	$ 5,135,000	

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) in our accompanying Consolidated Statements of Operations.

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

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StemCells, Inc.

Notes to Consolidated Financial Statements (Continued)

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

Intangible Asset Class	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
2009			
In-process development	$ 2,974,764	$ (192,756)	$ 2,782,008
Trade name	347,991	(15,500)	332,491
Patents	979,612	(571,058)	408,554
License agreements	1,800,999	(1,676,456)	124,543
Total other intangible assets	$ 6,103,366	$ (2,455,770)	$ 3,647,596
2008			
Patents	$ 979,612	$ (515,255)	$ 464,357
License agreements	1,785,998	(1,604,817)	181,181
Total other intangible assets	$ 2,765,610	$ (2,120,072)	$ 645,538

Amortization expense was approximately $336,000 in 2009, $142,000 in 2008, a