

STEMCELLS INC  
Form 10-K  
March 11, 2011

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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, 2010**
- 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**  
*(State or other jurisdiction of  
incorporation or organization)*

**94-3078125**  
*(I.R.S. Employer  
Identification No.)*

**3155 PORTER DRIVE**  
**PALO ALTO, CA**  
*(Address of principal offices)*

**94304**  
*(zip code)*

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

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

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

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

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

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

## Edgar Filing: STEMCELLS INC - Form 10-K

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

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

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

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

Large accelerated filer ☐ Accelerated filer ☒ Non-accelerated filer ☐ Smaller reporting company ☐  
(Do not check if a smaller reporting company)

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

Aggregate market value of common stock held by non-affiliates at June 30, 2010: \$118,676,127. 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 7, 2011: 137,427,210 shares.

### DOCUMENTS INCORPORATED BY REFERENCE

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

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**FORWARD LOOKING STATEMENTS**

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

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### NOTE REGARDING REFERENCES TO OUR COMMON STOCK

Throughout this Form 10-K, the words "we," "us," "our," and "StemCells" refer to StemCells, Inc., including our directly and indirectly wholly-owned subsidiaries. "Common stock" refers to StemCells, Inc., common stock, \$0.01 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 tools and technologies for academia and industry. We believe that understanding cells and cell biology, and in particular stem cells, will play an increasingly important role in the understanding of human diseases and in the discovery of new medical therapies. Consequently, we are focused on developing and commercializing (i) stem and progenitor cells as the basis for novel therapeutics and therapies, and (ii) cells and related tools and technologies to enable stem cell-based research and drug discovery and development.

Our primary research and development efforts are focused on identifying and developing stem and progenitor cells as potential therapeutic agents. We currently have two therapeutic product development programs: (i) our CNS Program, which is developing applications for HuCNS-SC<sup>®</sup> cells, our proprietary human neural stem cell product candidate, and (ii) our Liver Program, which is characterizing our proprietary human liver cells as potential therapeutic products. 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.<sup>1</sup>

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. Our HuCNS-SC product candidate is currently in clinical development for the treatment of spinal cord injury and two neurodegenerative brain disorders. We expect to initiate in March 2011, a Phase I/II clinical trial of our HuCNS-SC cells in Switzerland for the treatment of chronic spinal cord injury. We received approval to conduct this trial from Swissmedic in December 2010. In the U.S., we are currently conducting a Phase Ib clinical trial in infantile and late infantile neuronal ceroid lipofuscinosis (NCL, also often referred to as Batten disease). We previously completed a Phase I clinical trial in infantile and late infantile NCL, and the data from that trial showed that our HuCNS-SC cells were well tolerated, non-tumorigenic, and there was evidence of engraftment and long-term survival of the transplanted HuCNS-SC cells. In February 2011, we completed accrual in our Phase I clinical trial in Pelizaeus-Merzbacher Disease (PMD), a fatal myelination disorder in the brain. Data from this trial is expected to be reported in early 2012. In addition, we plan to submit an Investigational New Drug Application (IND) to conduct a Phase I/II clinical trial for a retinal disorder, such as age-related macular degeneration, in late 2011.

In our Liver Program, we are focused on identifying and developing liver cells as potential therapeutics for a range of liver diseases. We recently identified a subset of our human liver engrafting cells (hLEC) which we believe may be a candidate for product development, and we are working to characterize this subset.

In our tools and technologies programs, we are engaged in developing and commercializing applications of our technologies to enable stem cell-based research. We currently market a range of proprietary cell culture products and antibody reagents under the SC Proven<sup>®</sup> brand. Our cell culture products include iSTEM<sup>®</sup>, GS1-R<sup>™</sup>, GS2-M<sup>™</sup>, RHB-A<sup>®</sup>, RHB-Basal<sup>®</sup>, NDiff<sup>®</sup> N2B27, NDiff<sup>®</sup> 2 and 27 supplements, HEScGRO<sup>™</sup>, and ESGRO Complete<sup>™</sup> proprietary media.<sup>2</sup> Our antibody reagents include STEM24, STEM101, STEM121, STEM123, and STEM133, which can be used for cell detection, isolation and characterization. Academic and industrial laboratories conducting stem cell research need specialized cell culture products and reagents for the derivation, growth, maintenance, and manipulation of stem cells, as well as their detection, isolation and characterization in both *in vitro* and *in vivo* models. As this type of research continues to grow, the market for such cell culture products and

<sup>1</sup> 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.

<sup>2</sup> HEScGRO and ESGRO Complete are trademarks of Millipore Corporation, our co-exclusive distributor of these products.



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reagents should 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 seeking to leverage our proprietary technologies, including technologies relating to embryonic stem cells, induced pluripotent stem (iPS) cells, and tissue-derived (adult) stem cells, for use in 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. Stem cells have two defining characteristics: (i) they produce all of the mature cell types of the particular organ, and (ii) they self renew—that is, some of the cells developed from stem cells are themselves new stem cells. Progenitor cells are cells that have already developed from stem cells, but can still produce one or more mature cell types within an organ. Stem cells are rare; to date only four human stem cells have been identified and characterized *in vivo*: the hematopoietic stem cell, the mesenchymal stem cell, the neural stem cell, and the embryonic stem cell. Because of this self-renewal property, we believe that stem cell-based therapies may have the potential to return an impaired organ to proper function for the life of the patient.

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

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

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

## **Business Strategy**

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

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

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

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

## **Therapeutic Product Development Programs**

### ***Overview***

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

### **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 spinal cord injury, lysosomal storage diseases that affect the CNS, such as NCL, disorders in which deficient myelination plays a central role, such as PMD and retinal disorders, such as age-related macular degeneration.

#### ***Spinal Cord Injury:***

Expect to initiate 12-patient Phase I/II clinical trial in Switzerland in March 2011. Trial would enroll patients with chronic spinal cord injury and would include both complete and incomplete injuries.

Demonstrated *in vivo* proof of principle by showing in a mouse model for spinal cord injury that transplanted HuCNS-SC cells can:

restore motor function in injured animals

directly contribute to functional recovery (and that when human cells are ablated restored function is lost)

become specialized oligodendrocytes and neurons.

*Neuronal Ceroid Lipofuscinosis (also known as Batten disease):*

Phase Ib clinical trial currently enrolling.

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**Program Description and Objective**

**Status**

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:*

Patient accrual for four-patient Phase I clinical trial completed February 2011. Data expected to be reported in early 2012.

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.

*Retinal Disorders:*

Plan to file an IND for Phase I/II clinical trial by end of 2011.

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.

Identified a subset of hLEC and are currently working to characterize this subset.

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### ***CNS Program***

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

Our lead product candidate, HuCNS-SC cells, is a purified and expanded composition of normal human neural stem cells. Alternative therapies based on cells derived from cancer cells, embryonic stem cells, iPS cells, animal-derived cells, or unpurified mixes of cell types have a significantly higher safety hurdle to overcome and while they 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.

### ***Spinal Cord Injury.***

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

We expect to initiate a Phase I/II clinical trial in Switzerland to evaluate our HuCNS-SC cells as a treatment for chronic spinal cord injury in March 2011. A total of twelve patients are expected to enroll in the study, all of whom will be three to 12 months post-injury. The study will follow a progressive study design, beginning with patients with complete injuries and then enrolling patients with incomplete injuries, all as classified by the American Spinal Injury Association (ASIA) Impairment Scale. In addition to assessing safety, the trial will evaluate preliminary efficacy using defined clinical endpoints, such as changes in sensation, motor, and bowel/bladder function. We received authorization in December 2010 from Swissmedic, the regulatory agency for therapeutic products in Switzerland, to conduct this trial, which will be conducted at University Hospital Balgrist in Zurich.

The results of numerous preclinical studies demonstrate the therapeutic potential of our human neural stem cells for the treatment of spinal cord injury. Using a mouse model of spinal cord injury, our collaborators at the Reeve-Irvine Research Center at the University of California, Irvine have shown that our HuCNS-SC cells have the potential to protect and regenerate damaged nerves and nerve fibers, and that injured mice transplanted with our HuCNS-SC cells showed improved motor function compared to control animals. Inspection of the spinal cords from the treated mice showed significant levels of human neural cells derived from the transplanted stem cells. Some of these cells were oligodendrocytes, the specialized neural cell that forms the myelin sheath around axons, while



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others had become neurons and showed evidence of synapse formation, a requirement for proper neuronal function. The researchers then selectively ablated the human cells, and found that the functional improvement was lost, thus demonstrating that the human cells had played a direct role in the functional recovery of the transplanted mice. Moreover, our preclinical studies show that our human neural stem cells enable a significant and persistent recovery of motor function when transplanted in spinal cord-injured mice at both sub-acute and chronic injury time points.

### *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 October 2010, we initiated a Phase Ib clinical trial in infantile and late infantile NCL at Oregon Health & Science University Doernbecher Children's Hospital. Our goal is to enroll six patients, in this trial, which will be an open label study with one dose level. All patients would be immunosuppressed for nine months following transplantation of the HuCNS-SC cells. The patients will be evaluated regularly over a 12-month period to monitor and evaluate the safety and tolerability of the HuCNS-SC cells, the transplantation procedure, and the immunosuppression. In addition, the trial is designed to assess potential measures of effect from the donor cells, including assessing and tracking cerebral volume and unique neuronal metabolites, both of which are negatively impacted by disease progression.

We completed a six-patient Phase I clinical trial of our HuCNS-SC product candidate in infantile and late infantile NCL in January 2009. We believe that this clinical trial was the first FDA-authorized trial to evaluate purified human neural stem cells as a potential therapeutic agent. 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. This Phase I trial was conducted at OHSU Doernbecher Children's Hospital.

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 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<sup>™</sup> for Gaucher disease, Fabryzyme<sup>™</sup> for Fabry disease, Myozyme<sup>®</sup> for Pompe disease, Aldurazyme<sup>™</sup> for MPS I, and Naglazyme<sup>™</sup> 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

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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 February 2011, we completed patient accrual in a Phase I clinical trial in PMD. A total of four patients were transplanted with HuCNS-SC cells and are being evaluated 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). Loss of myelin can also play a role in certain spinal cord indications. Based on our preclinical data, we believe our HuCNS-SC product candidate may have applicability to a range of myelin disorders. 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.

### *Retinal Disorders.*

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

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 AMD. We plan to submit an IND for a Phase I/II study in AMD by the end of 2011.

*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

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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.

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

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

## **Tools and Technologies Programs**

### ***Overview***

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

### ***Specialty Cell Culture Products and Antibody Reagents***

Stem cell research is a growing and highly specialized field. Because of their nature, stem and progenitor cells are rare and they require specific conditions to survive and thrive. For this reason, researchers require specialized cell culture products that enable the derivation, growth, maintenance, and manipulation of such cells. One of the greatest challenges facing researchers is the limited quality and quantity of stem and progenitor cells available. The challenge is in maintaining the pluripotency or multipotency of stem or progenitor cells in culture, i.e., keeping these cells from differentiating into other cell types, which is their natural tendency. Our cell biology expertise has enabled us to develop and commercialize proprietary cell culture products to optimize the derivation, growth,

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maintenance, and differentiation of stem cells. In contrast to common industry practice, we have developed media formulations that are free of animal serum and feeder cells (helper cells added to promote cell growth), which are known sources of undesirable agents affecting stem cell performance and safety.

Our current range of cell culture products, which are sold under the SC Proven brand, includes iSTEM, GS1-R, GS2-M, RHB-A, RHB-Basal, NDiff N2, NDiff N2B27, HEScGRO, and ESGRO Complete 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 N2	A defined serum-free medium for adherent neural stem cell culture.
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.

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

STEM24	A human antibody that recognizes human CD24, also known as Heat Stable Antigen (HSA), a glycoprotein expressed on the surface of many human cell types, including immature human hematopoietic cells, peripheral blood lymphocytes, erythrocytes, and many human carcinomas. CD24 is also a marker of human neural differentiation.
STEM101	A human-specific mouse antibody that recognizes the Ku80 protein found in human nuclei.
STEM121	A human-specific mouse antibody that recognizes a cytoplasmic protein of human cells.
STEM123	A human-specific mouse antibody that recognizes human glial fibrillary acidic protein (GFAP).
STEM133	A human antibody that recognizes the human antigen CD133 (Prominin-1), a marker expressed on the surface of primitive cells, including hematopoietic stem

and progenitor cells, neural stem cells, endothelial stem cells, cancer stem cells, as well as developing epithelium.

***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



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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 (e.g. 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.

### ***Rat Embryonic Stem Cell Technology***

In August 2010, technology covered by our intellectual property was used by independent researchers to achieve the first genetically engineered rat derived from rat embryonic stem cells. Prior to this breakthrough, these types of genetic manipulations were only possible in mice. Today, genetically engineered mice are widely used as disease models. While both mice and rats are used as animal models of human disease, aspects of the rat's physiology, behavior, and metabolism are closer to the human, making rats the preferred species for drug development and studying human disease.

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.

## **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, U.K. Customers can order these products through our dedicated website ([www.scproven.com](http://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.

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***Employees***

As of December 31, 2010, we had 74 full-time employees, 19 of whom have Ph.D., M.D. or D.V.M. degrees. 60 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, 2010, our U.S. patent portfolio included approximately 40 issued or allowed U.S. patents from over 30 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 240 granted or allowed non-U.S. patents as of December 31, 2010.

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

U.S. Patent No. 5,968,829, entitled Human CNS Neural Stem Cells, which covers our composition of matter for human CNS stem cells;

U.S. Patent No. 7,361,505, entitled Multipotent neural stem cell compositions, which covers mammalian neural stem cells derived from any tissue source, including embryonic, fetal, juvenile, or adult tissue;

U.S. Patent No. 7,153,686, entitled Enriched Central Nervous System Stem Cell and Progenitor Cell Populations, and Methods for Identifying, Isolating and Enriching such Populations, which claims the composition of matter of various antibody-selected neural stem cell populations;

U.S. Patent No. 6,777,233, entitled Cultures of Human CNS Neural Stem Cells, which discloses a neural stem cell culture with a doubling rate faster than days;

U.S. Patent No. 6,497,872, entitled Neural transplantation using proliferated multipotent neural stem cells and their progeny, which covers transplanting any neural stem cells or their differentiated progeny, whether the cells have been cultured in suspension or as adherent cells, for the treatment of any disease;

U.S. Patent No. 6,468,794, entitled Enriched central nervous system stem cell and progenitor cell populations, and methods for identifying, isolating and enriching for such populations, which covers the identification and purification of the human CNS stem cell;

U.S. Patent Nos. 6,238,922 and 7,049,141, both entitled Use of collagenase in the preparation of neural stem cell cultures, which describe methods of *in vitro* culture and passage of human CNS stem cells using collagenase;

U.S. Patent No. 5,851,832, entitled *In Vitro* growth and proliferation of multipotent neural stem cells and their progeny, which covers methods and compositions of proliferating and expanding human CNS cell cultures;

U.S. Patent No. 6,294,346, entitled Use of multipotent neural stem cells and their progeny for the screening of drugs and other biological agents, which describes the use of human neural stem cells as a tool for screening the effects of drugs and other biological agents on such cells, such as small molecule toxicology studies;

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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. 7,381,561, 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 a MEK inhibitor.

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

Patents Owned	5,968,829 (2017); 7,153,686 (2019); 6,777,233 (2017); 6,468,794 (2019); 6,238,922 (2019); 7,049,141 (2019); 7,211,404 (2022); 7,381,561 (2024)
Patents Exclusively Licensed (licensor included):	7,361,505 (NeuroSpheres, 2015); 6,497,872 (NeuroSpheres, 2019); 5,851,832 (NeuroSpheres, 2015); 6,294,346 (NeuroSpheres, 2018); 7,005,299 (University of Edinburgh 2014); 6,150,169 (University of Edinburgh 2014); 6,878,542 (University of Edinburgh 2014); 7,256,041 (University of Edinburgh 2014); 6,146,888 (University of Edinburgh 2014); 7,371,573 (University of Edinburgh 2019)

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

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

## ***Licenses with Research Institutions***

From time to time, 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), to gain either exclusive, partially exclusive or non-exclusive access to certain technologies. 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. However, except for our agreements with NeuroSpheres and the University of Edinburgh, these agreements concern the in-bound license of various technologies unrelated to the Company's HuCNS-SC or

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hLEC cell-based product development efforts. At this time, we do not believe the future success of our research and development efforts depend significantly on any particular license agreement or research collaboration. The license agreements with some of these institutions relate largely to stem or progenitor cells or to processes and methods for the isolation, identification, expansion, or culturing of stem or progenitor cells. Generally speaking, these license agreements will terminate upon expiration, revocation or invalidation of the 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. All of the product-based royalty rates in the license agreement between the Company and the University of Edinburgh are in the single digits and there are no provisions under the University of Edinburgh license agreement for the payment of potential milestones by the Company.

Pursuant to the terms of our license agreement with Cal Tech, we were required 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 were creditable against royalties we must pay under the license agreements. The maximum annual royalty payable to Cal Tech was \$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. In September 2010 and January 2011, we terminated all our licensing agreements with Cal Tech and Cambridge University, respectively, because neither covered technology central to our on-going product development activities.

### ***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 an exclusive license in the field of non-transplant uses, such as drug discovery and drug testing and clarified our rights under NeuroSpheres patents for generating cells of the blood and immune system from neural stem cells. Together, our rights under the licenses are exclusive for all uses of the technology. All of the product-based royalty rates in the

license agreement between the Company and NeuroSpheres are in the single digits. We made up-front payments to NeuroSpheres of 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



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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 U.K. 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, 2010, we held approximately 1,922,000 shares of ReNeuron as marketable equity securities with a carrying and fair market value of approximately \$191,000. 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 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.

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### **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. Donnell Thomas Award for Hematology Research, the van Bakkum Award for Stem Cell Research, the Outstanding Investigator Award from the National Institutes of Health, Robert Koch Award for research in the hemopoietic 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 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

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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**

1. Preclinical laboratory and animal tests
2. Submission of an Investigational New Drug (IND) application

#### **Considerations**

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. 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.

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3. Human clinical trials

Clinical trials involve the evaluation of a potential product under the supervision of a qualified physician, in accordance with a protocol that details the objectives of the study, the parameters to be used to monitor safety and the efficacy criteria to be evaluated. Each protocol is submitted to the FDA as part of the IND. The protocol for each clinical study must be approved by an independent Institutional Review Board (IRB) of the institution at which the study is conducted and the informed consent of all participants must be obtained. The IRB reviews the existing information on the product, considers ethical factors, the safety of human subjects, the potential benefits of the therapy, and the possible liability of the institution. The IRB is responsible for ongoing safety assessment of the subjects during the clinical investigation.

Clinical development is traditionally conducted in three sequential phases, Phase I, II and III.

Phase I studies for a product are designed to evaluate safety in a small number of subjects in a selected patient population by assessing adverse effects, and may include multiple dose levels. This study may also gather preliminary evidence of a beneficial effect on the disease.

Phase II studies typically involve a larger, but still limited, patient population to determine biological and clinical effects of the investigational product and to identify possible adverse effects and safety risks of the product in the selected patient population.

Phase III studies are undertaken to demonstrate clinical benefit or effect in a statistically significant manner and to test further for safety within a broader patient population, generally at multiple study sites.

The FDA continually reviews the clinical trial plans and results and may suggest changes or may require discontinuance of any trial at any time if significant safety issues arise.

4. Submission of a Biologics Licensing Application (BLA)

The results of the preclinical studies and clinical studies are submitted to the FDA in an application for marketing approval authorization.

5. Regulatory Approval

The testing and approval process will require substantial time, effort and expense. The time for approval is affected by a number of factors, including relative risks and benefits demonstrated in clinical trials, the availability of alternative treatments and the severity of the disease. Additional animal studies or clinical trials

may be requested during the FDA review period, which might add to that time. FDA approval of the application(s) is required prior to any commercial sale or shipment of the therapeutic product. Biologic product manufacturing facilities located in certain states also may be subject to separate regulatory and licensing requirements.



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### **Steps**

### **Considerations**

#### 6. Post-marketing studies

After receiving FDA marketing approval for a product for an initial indication, further clinical trials may be required to gain approval for the use of the product for additional indications. The FDA may also require post-marketing testing and surveillance to monitor for adverse effects, which could involve significant expense, or the FDA may elect to grant only conditional approvals subject to collection of post-marketing data.

### *FDA Manufacturing Requirements*

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

### *Orphan Drug Act*

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

### *FDA Human Cell and Tissue Regulations*

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

### *Other Regulations*

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

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### ***International Law***

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

### **Environment**

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

### **Reimbursement and Health Care Cost Control**

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

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

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

### **Competition**

In most instances, the targeted indications for our initial products in development have no effective long-term therapies at this time. However, we do expect that our initial products will have to compete with a variety of therapeutic products and procedures. Other pharmaceutical and biotechnology companies currently offer a number of pharmaceutical products to treat lysosomal storage diseases, neurodegenerative and liver diseases, and other diseases for which our technologies may be applicable. Many pharmaceutical and biotechnology companies are investigating

new drugs and therapeutic approaches for the same purposes, which may achieve new efficacy profiles, extend the therapeutic window for such products, alter the prognosis of these diseases, or prevent their onset. We believe that our products, when and if successfully developed, will compete with these products principally on the basis of improved and extended efficacy and safety and their overall economic benefit to the health care system. The market for therapeutic products that address degenerative diseases is large and competition

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is intense. Many companies have significant products approved or in development that could be competitive with our potential products. We expect competition to increase.

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

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

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

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

Reliable independent information on sales and market share of products produced by our competitors is not generally available. We believe, however, based on our own estimates, that no one company is so dominant that it prevents other companies from competing effectively. We compete mainly by focusing on specialty products 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.

## **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](mailto: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

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the charters of the Audit Committee, the Compensation & Stock Option Committee and the Corporate Governance & Nominating Committee of our Board of Directors.

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

**Item 1A. RISK FACTORS**

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

**Risks Related to our Business**

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

At present, our ability to progress as a company is significantly dependent on a single product candidate, our HuCNS-SC cells (purified human neural stem cells), and on early stage clinical trials. Any clinical, regulatory or other development that significantly delays or prevents us from completing any of our trials, any material safety issue or adverse side effect to any study participant in any of these trials, or the failure of these trials to show the results expected would likely depress our stock price significantly and could prevent us from raising the substantial additional capital we will need to further develop our cell technologies. Moreover, any material adverse occurrence in our first clinical trials could substantially impair our ability to initiate additional clinical trials to test our HuCNS-SC cells, whether in other potential indications or otherwise. This, in turn, could adversely impact our ability to raise additional capital and pursue our planned research and development efforts.

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

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

We intend to pursue opportunities for additional fundraising in the future through equity or debt financings, corporate alliances or combinations, grants or collaborative research arrangements, 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



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bankruptcy proceedings or delay, scale back or eliminate some or all of our research and product development programs.

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

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

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

We have incurred significant operating losses and negative cash flows since inception. We have not achieved profitability and may not be able to realize sufficient revenue to achieve or sustain profitability in the future. We have yet to develop any therapeutic products that have been approved for marketing, and we do not expect to become profitable within the next several years, but rather expect to incur additional and increasing operating losses. Before commercializing any therapeutic product, we will need to obtain regulatory approval from the FDA or from equivalent foreign agencies after conducting extensive preclinical studies and clinical trials that demonstrate that the product candidate is safe and effective. Except for the Phase I NCL trial we completed at Oregon Health & Science University (OHSU), and our currently ongoing clinical trials in NCL, PMD and spinal cord injury, we have had no experience conducting human clinical trials. We expect that none of our cell-based therapeutic product candidates will be commercially available for several years, if at all.

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

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

survive and persist in the desired location;

provide the intended therapeutic benefit;

engraft into existing tissue in the desired manner; or

achieve therapeutic benefits equal to, or better than, the standard of treatment at the time of testing.

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

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

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

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***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, in April 2009, we acquired substantially all of the operating assets and liabilities of Stem Cell Sciences Plc (SCS). Any such acquisition or change in business activities may require assimilation of the operations, products or product candidates and personnel of the acquired business and the training and integration of its employees, and could substantially increase our operating costs, without any offsetting increase in revenue. Acquisitions may not provide the intended technological, scientific or business benefits and could disrupt our operations and divert our limited resources and management's attention from our current operations, which could harm our existing product development efforts. We would likely issue equity securities to pay for any other future acquisitions. The issuance of equity securities for an acquisition could be substantially dilutive to our stockholders. 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***

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

- 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.

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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 \$1,801,000 in 2010; our rent payments will increase over the term of the lease, and our operating costs may increase as well. In addition to these costs of our former science and administrative facility, we are obligated to make debt service payments and payments for operating costs of approximately \$400,000 per year for our former encapsulated cell therapy pilot manufacturing facility, which we own. We have currently subleased a portion of the science and administrative facility, and we are seeking to sublease the remaining portion, but we cannot be sure that we will be able to keep any part of the facility subleased for the duration of our obligation. We are currently seeking to sublease the pilot manufacturing facility, but may not be able to sublease or sell the facility in the future. These continuing costs significantly reduce our cash resources and adversely affect our ability to fund further development of our cell technologies. In addition, changes in real estate market conditions and assumptions regarding the length of time it may take us to either fully sublease, assign or sell our remaining interest in the our former research facility in Rhode Island may have a significant impact on and cause large variations in our quarter to quarter results of operations. In 1999, in connection with exiting our former research facility in Rhode Island, we created a reserve for the estimated lease payments and operating expenses related to it. The reserve is periodically re-evaluated and adjusted based on assumptions relevant to real estate market conditions and the estimated time until we can either fully sublease, assign or sell our remaining interests in the property. At December 31, 2010, the reserve was \$3,300,000. For the year 2010, we incurred \$1,219,000 in operating expenses net of sub-tenant income for this facility. Expenses for this facility will fluctuate based on changes in tenant occupancy rates and other operating expenses related to the lease. Even though it is our intent to sublease, assign, sell, or otherwise divest ourselves of our interests in the facility at the earliest possible time, we cannot determine with certainty a fixed date by which such events will occur. In light of this uncertainty, based on estimates, we will periodically re-evaluate and adjust the reserve, as necessary, and we may make significant adverse adjustments to the reserve in the future.

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

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



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***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 or invalidate these patents, whether or not lawfully. In addition, our patents may not afford us adequate protection from competing products. Moreover, because patents issue for a limited term, our patents may expire before we can commercialize a product covered by the issued patent claims or before we can utilize the patents profitably. Some of our most important patents begin to expire in 2015.

If we learn of third parties who infringe our patent rights, we may decide to initiate legal proceedings to enforce these rights. Patent litigation, including the pending litigation to which we are a party, is inherently unpredictable and highly risky and may result in unanticipated challenges to the validity or enforceability of our intellectual property, antitrust claims or other claims against us, which could result in the loss of these intellectual property rights. Litigation proceedings can be very time-consuming for management and are also very costly and the parties we bring actions against may have significantly greater financial resources than our own. We may not prevail in these proceedings and if we do not prevail we could be liable for damages as well as the costs and attorney fees of our opponents.

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

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

A number of pharmaceutical, biotechnology and other companies, universities and research institutions have filed patent applications or have received patents relating to cell therapy, stem and progenitor cells and other technologies potentially relevant to, or necessary for, our expected products. We cannot predict which, if any, of these applications will issue as patents or how many of these issued patents will be found valid and enforceable. There may also be existing issued patents which we are currently unaware of which would be infringed by the commercialization of one

or more of our product candidates. If so, we may be prevented from commercializing these products unless the third party is willing to grant a license to us. We may be unable to obtain licenses to the relevant patents at a reasonable cost, if at all, and may also be unable to develop or obtain alternative non-infringing



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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.

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

Our customers include researchers at academic institutions, pharmaceutical and biotechnology companies and government laboratories, all of whom fund much of their stem cell research using government monies, such as grants. A number of these customers, for example, are dependent for their funding upon grants from

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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 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.

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

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

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

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

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

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

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

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

The manufacture of cell-based and related products is complicated and difficult, dependent upon substantial know-how and subject to the need for continual process improvements to be competitive. Our manufacturing experience is limited and the technologies are comparatively new. In addition, our ability to scale-up manufacturing to satisfy the various requirements of our planned clinical trials, such as GTP, GMP and release testing requirements, is

uncertain. Manufacturing disruptions may occur and despite efforts to regulate and control all aspects of manufacturing, the potential for human or system failure remains. Manufacturing irregularities or lapses in quality control could have a serious adverse effect on our reputation and business, which could cause a significant loss of stockholder value. Many of the materials that we use to prepare our cell-based and related products are highly specialized, complex and available from only a limited number of suppliers or derived from a biological origin. At

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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. The use of these cells could give rise to ethical and social commentary adverse to us, which could harm the market price of our common stock. Additional government-imposed restrictions on the use of embryos or human embryonic stem cells in research and development could also cause an adverse effect on us by harming our ability to establish important partnerships or collaborations, delaying or preventing the development of certain non-therapeutic products, and causing a decrease in the price of our stock or by otherwise making it more difficult for us to raise additional capital. For example, concerns regarding such possible regulation could impact our ability to attract collaborators and investors. Also, existing regulatory constraints on the use of embryonic stem cells may in the future be extended to use of fetal stem cells, and these constraints might prohibit or restrict us from conducting research or from commercializing products. Existing and potential government regulation of embryonic tissue may lead

researchers to leave the field of stem cell research or the country altogether, in order to assure that their careers will not be impeded by restrictions on their work. Similarly, these factors may induce graduate students to choose other fields less vulnerable to changes in regulatory oversight, thus exacerbating the risk that we may not be able to attract and retain the scientific personnel we need in face of the competition among pharmaceutical,



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biotechnology and health care companies, universities and research institutions for what may become a shrinking class of qualified individuals.

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

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

## **Risks Related to 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, 2010, 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 \$0.75 per share. As a result of this volatility, an investment in our stock is subject to substantial risk. Furthermore, the volatility of our stock price could negatively impact our ability to raise capital or acquire businesses or technologies.

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

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

On March 3, 2011, we received a letter from the NASDAQ providing notification that the closing bid price for the company's common stock had been below \$1.00 per share for the previous 30 consecutive business days, and therefore

we are not in compliance with the requirements for continued inclusion on the NASDAQ Global Market under NASDAQ Listing Rule 5450(a)(1). We have 180 calendar days, or until August 30, 2011, to regain compliance with this minimum bid price requirement. We can regain compliance if the closing bid price of our common stock is \$1.00 per share or higher for a minimum of ten consecutive business days during this initial 180-day compliance period. If compliance is not achieved by August 30, 2011, NASDAQ will provide written notification to us that our securities are subject to delisting. We will continue to monitor the closing bid price for our common stock and consider our available options to regain compliance with the NASDAQ minimum bid price requirement, which may include applying for an extension of the compliance period or an appeal to a NASDAQ

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Listing Qualifications Panel. However, there can be no assurance that we will be able to regain or maintain compliance with the minimum bid price rule or other listing criteria or that an appeal, if taken, would be successful.

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

As of December 31, 2010, 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 10,982,415 shares of our common stock, at a weighted average exercise price of \$2.02 per share, and outstanding restricted stock units for 4,695,055 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. In September 2010, we amended our lease to reduce the area leased to 51,200 square feet, to change the expiry date of the lease term from August 31, 2011 to June 30, 2011. In connection with this September 2010 lease amendment, we terminated a space-sharing agreement covering approximately 10,451 square feet of this facility. In February 2011, we amended our lease to extend the expiry date of the lease term from June 30, 2011 to August 31, 2011.

In September 2010, we entered into a two-year sublease agreement with Caliper Life Sciences, Inc., for approximately 13,200 square feet in a facility located in Mountain View, California and relocated part of our Palo Alto R&D operations to this site.

In December 2010, we entered into a commercial lease agreement with BMR-Gateway Boulevard LLC ( BMR ), as landlord, for approximately 43,000 rentable square feet of office and research space at BMR's Pacific Research Center in Newark, California. The initial term of the lease is approximately eleven and one-half years, and we expect to relocate our corporate headquarters and core research activities in August 2011. Initial base rent is expected to be approximately \$2.20 per rentable square foot, with yearly increases throughout the term, and subject to certain adjustments for draws upon the tenant allowances among other things. We will pay approximately \$14,906,000 in aggregate as rent over the term of the lease. We anticipate that we will be constructing laboratories, offices and related infrastructure within the leased space during the first several months of the lease. As part of the lease, BMR has agreed to provide various financial allowances so that we can build to suit initial and future laboratories, offices and other tenant improvements, subject to customary terms and conditions relating to landlord-funded tenant improvements. As part of the lease, we have, until January 2013, an option to lease up to an additional 30,000 square feet in the building.

We continue to lease a facility in Lincoln, Rhode Island obtained in connection with our former encapsulated cell technology: our former research laboratory and corporate headquarters building which contains 62,500 square feet of

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

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In January 2011, we amended the existing lease agreements of our wholly-owned subsidiary, Stem Cell Sciences (U.K.) Ltd, effectively reducing our leased space from approximately 5,000 square feet to approximately 1,900 square feet of office and lab space. We expect to pay approximately 55,000 GBP as rental payments for 2011. StemCells, Inc. is the guarantor of Stem Cell Sciences (U.K.) Ltd's obligations under the existing lease.

### **Item 3. *LEGAL PROCEEDINGS***

In July 2006, we filed suit against Neuralstem, Inc. in the Federal District Court for the District of Maryland, alleging that Neuralstem's activities violate claims in four of the patents we exclusively licensed from NeuroSpheres. 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 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. In December 2010, the European Patent Office ruled that all composition claims in Neuralstem's 968 European patent were invalid and unpatentable over prior art including several of the NeuroSpheres patents licensed to us.

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

None.

**Table of Contents****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:

	<b>High</b>	<b>Low</b>
<b>2010</b>		
First Quarter	\$ 1.58	\$ 1.12
Second Quarter	\$ 1.22	\$ 0.89
Third Quarter	\$ 1.19	\$ 0.75
Fourth Quarter	\$ 1.27	\$ 0.78
<b>2009</b>		
First Quarter	\$ 3.07	\$ 1.25
Second Quarter	\$ 1.94	\$ 1.50
Third Quarter	\$ 1.86	\$ 1.56
Fourth Quarter	\$ 1.72	\$ 1.02

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

**Table of Contents****PERFORMANCE GRAPH**

We show below the cumulative total return to our stockholders during the period from December 31, 2005 through December 31, 2010<sup>3</sup> 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.

	<b>December 31, 2005</b>	<b>December 31, 2006</b>	<b>December 31, 2007</b>	<b>December 31, 2008</b>	<b>December 31, 2009</b>	<b>December 31, 2010</b>
StemCells, Inc.	\$ 100.00	\$ 76.81	\$ 43.48	\$ 39.42	\$ 36.52	\$ 31.30
S&P 500 Index	\$ 100.00	\$ 113.62	\$ 117.63	\$ 72.36	\$ 89.33	\$ 100.75
Amex Biotechnology Index	\$ 100.00	\$ 110.77	\$ 115.51	\$ 95.04	\$ 138.36	\$ 190.57

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 7, 2011, there were approximately 596 holders of record of our common stock and the closing price of our common stock on the NASDAQ Global Market was \$0.80 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, 2010)**

We did not issue unregistered securities in 2010.

<sup>3</sup> Cumulative total returns assumes a hypothetical investment of \$100 on December 31, 2005.

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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 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.

**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, 2010.

	<b>Equity Compensation Plan Information</b>		
	<b>Number of Securities to be Issued upon</b>	<b>Weighted-Average</b>	<b>Number of Securities Remaining Available for Future Issuance Under Equity</b>
<b>Plan Category</b>	<b>Exercise of Outstanding Stock Options, Warrants and Rights (a)</b>	<b>Exercise Price of Outstanding Stock Options, Warrants and Rights (b)</b>	<b>Compensation Plans (Excluding Securities Reflected in Column(a)) (c)</b>
Equity compensation plans approved by security holders(1)	15,677,470	\$ 1.41	5,179,302

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



**Table of Contents****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.

	2010	Year Ended December 31,			2006
		2009	2008	2007	
	(In thousands, except per share amounts)				
Consolidated Statements of Operations					
Revenue from licensing agreements and grants	\$ 928	\$ 608	\$ 232	\$ 57	\$ 93
Revenue from product sales	499	385			
Research and development expenses	21,019	19,930	17,808	19,937	13,600
General and administrative expenses	9,377	9,530	8,296	7,927	7,154
Wind-down expenses(1)	222	650	866	783	709
Write down for other than temporary impairment of marketable securities(2)			2,083		
Gain (loss) on change in fair value of warrant liabilities(3)	3,005	1,899	(937)		
License & settlement agreement income, net(4)				551	103
Gain on sale of marketable securities		407		716	
Net loss	(25,244)	(27,026)	(29,087)	(25,023)	(18,948)
Basic and diluted loss per share	\$ (0.20)	\$ (0.25)	\$ (0.35)	\$ (0.31)	\$ (0.25)
Shares used in computing basic and diluted loss per share amounts	123,303	106,046	82,716	79,772	74,611

	2010	2009	December 31, 2008	2007	2006
	(In thousands)				
Consolidated Balance Sheets					
Cash and cash equivalents	\$ 19,708	\$ 38,618	\$ 30,043	\$ 9,759	\$ 51,795
Marketable securities	191	197	4,182	29,847	7,266
Total assets	30,602	51,190	41,230	48,283	66,857
Accrued wind-down expenses(1)	3,300	4,506	5,513	6,143	6,750
Fair value of warrant liabilities(3)	6,672	9,677	8,440		
Long-term debt, including capital leases	540	785	867	1,034	1,145
Stockholders' equity	15,481	30,495	21,809	35,212	54,376

(1)

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

- (2) Relates to the impairment of our 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.
- (3) 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.
- (4) 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.

**Table of Contents****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 spinal cord injury, neuronal ceroid lipofuscinosis (NCL, also known as Batten disease), Pelizeaus-Merzbacher disease (PMD), age-related macular degeneration or any other disease; uncertainty as to whether the U.S. Food and Drug Administration (FDA), Swissmedic, or other regulatory authorities will permit us to proceed with clinical testing of proposed products despite the novel and unproven nature of our technologies; the risk that our clinical trials or studies could be substantially delayed beyond their expected dates or cause us to incur substantial unanticipated costs; uncertainties in our ability to obtain the capital resources needed to continue our current research and development operations and to conduct the research, preclinical development and clinical trials necessary for regulatory approvals; the uncertainty regarding our ability to obtain a corporate partner or partners, if needed, to support the development and commercialization of our potential cell-based therapeutics products; the uncertainty regarding the outcome of our clinical trials or studies we may conduct in the future; the uncertainty regarding the validity and enforceability of our issued patents; the risk that we may not be able to manufacture additional master and working cell banks when needed; the uncertainty whether any products that may be generated in our cell-based therapeutics programs will prove clinically safe and effective; the uncertainty whether we will achieve significant revenue from product sales or become profitable; uncertainties regarding our obligations with respect to our former 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 tools and technologies for stem cell-based research and drug discovery and development. Our research and development (R&D) programs are primarily focused on identifying and developing potential cell-based therapeutics which can either restore or support organ function. In particular, since we relocated our corporate headquarters to California in 1999, our R&D efforts have been directed at refining our methods for identifying, isolating, culturing, and purifying the human neural stem cell and human liver engrafting cells (hLEC) and developing these as potential cell-based therapeutics for the central nervous system (CNS) and the liver, respectively. In our CNS Program, our HuCNS-SC<sup>®</sup> product candidate (purified human neural stem cells) is currently in clinical development for spinal cord injury and two neurodegenerative brain indications: neuronal ceroid lipofuscinosis (NCL), a lysosomal storage disorder often referred to as Batten disease, and Pelizeaus-Merzbacher Disease (PMD), a myelination disorder in the brain. We expect to initiate in March 2011 a Phase I/II clinical trial of our HuCNS-SC cells in Switzerland for the treatment of chronic spinal cord injury. We received approval to conduct this trial from Swissmedic in December 2010. In the United States, we are currently conducting a Phase Ib clinical trial in infantile and late infantile NCL. We previously

completed a Phase I clinical trial in infantile and late infantile NCL, and the data from that trial showed that our HuCNS-SC cells were well tolerated and non-tumorigenic, and that there was evidence of engraftment and long-term survival of the transplanted HuCNS-SC cells. In February 2011, we completed patient accrual in our Phase I clinical trial in PMD. Data from this trial is expected to be reported in early 2012. In addition, we plan to submit an IND to conduct a Phase I/II clinical trial in a retinal disorder, such as age-related macular degeneration, in late 2011. In our Liver Program, we are focused on identifying and developing liver cells as potential therapeutics for a range

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of liver diseases. We recently identified a subset of our human liver engrafting cells (hLEC) which we believe may be a candidate for product development, and we are working to characterize this subset. For a brief description of our significant therapeutic research and development programs see Overview Research and Development Programs in the Business Section of Part I, Item 1 of this Form 10-K. We have also conducted research on several other cell types and in other areas, which could lead to other possible product candidates, process improvements or further research activities.

We are also engaged in developing and commercializing applications of our technologies to enable research, which we believe represent current and nearer-term commercial opportunities. Our portfolio of technologies includes cell technologies relating to embryonic stem cells, induced pluripotent stem (iPS) cells, and tissue-derived (adult) stem cells; expertise and infrastructure for providing cell-based assays for drug discovery; a cell culture products and antibody reagents business; and an intellectual property portfolio with claims relevant to cell processing, reprogramming and manipulation, as well as to gene targeting and insertion. 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 preclinical and clinical studies, and the content and timing of decisions made by the FDA, Swissmedic and other regulatory authorities. There can be no assurance that we will be able to develop any product successfully, or that we

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will be able to recover our development costs, whether upon commercialization of a developed product or otherwise. We cannot provide assurance that any of these programs will result in products that can be marketed or marketed profitably. If certain of our development-stage programs do not result in commercially viable products, our results of operations could be materially adversely affected.

The research markets served by our tools and technologies products are highly competitive, complex and dynamic. Technological advances and scientific discoveries have accelerated the pace of change in biological research, and stem cell technologies have been evolving particularly fast. We compete mainly by focusing on specialty media and antibody reagent products and cell-based assays, which are custom designed for use in stem cell-based research, where we believe our expertise, intellectual property and reputation give us competitive advantage. We believe that, in this particular market niche, our products and technologies offer customers specific advantages over those offered by our competitors. We compete by offering innovative, quality-controlled products, consistently made and designed to produce reproducible results. We continue to make investments in research and development, quality management, quality improvement, and product innovation. We cannot assure you that we will have sufficient resources to continue to make such investments. For the year ended December 31, 2010, we generated revenues from the sale of specialty cell culture products of approximately \$499, 000. We can give no assurances that we will be able to continue to generate such revenues in the future.

## ***Significant Events***

### ***Therapeutic Product Development***

In February 2010, we enrolled and dosed the first patient in our PMD trial at UCSF Benioff Children's Hospital, marking the first time that neural stem cells have been transplanted as a potential treatment for a myelination disorder. In February 2011, the fourth and final patient for this trial was enrolled and transplanted with our HuCNS-SC human neural stem cells.

In August 2010, we published new preclinical data demonstrating that our proprietary human neural stem cells restore lost motor function in mice with chronic spinal cord injury. This is the first published study to show that human neural stem cells can restore mobility even when administered at time points beyond the acute phase of trauma, suggesting the prospect of treating a much broader population of injured patients than previously demonstrated. The paper was published in the international peer-reviewed journal *PLoS ONE*.

In October 2010, we initiated a Phase Ib clinical trial of our HuCNS-SC human neural stem cells in neuronal ceroid lipofuscinosis (NCL), which is also often referred to as Batten disease. Our goal for this Phase Ib trial is to enroll six patients with less advanced stages of the disease than those who participated in our first NCL trial, which was completed in January 2009. Like the Phase I NCL trial, this second trial is being conducted at Oregon Health & Science University (OHSU) Doernbecher Children's Hospital, a leading medical center with nationally recognized programs in pediatric neurology and neurosurgery.

In December 2010 we received authorization from Swissmedic, the Swiss regulatory agency, to initiate a Phase I/II clinical trial in Switzerland of our HuCNS-SC product candidate in chronic spinal cord injury. The trial is designed to assess both safety and preliminary efficacy in patients with varying degrees of paralysis who are three to 12 months post-injury, and will progressively enroll patients based upon the severity of injury. We expect to initiate the trial in March 2011.

### ***Tools and Technologies Programs***

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.



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In June 2010, a newly published independent research demonstrated that our GS2-M cell culture media formulation enhances the pluripotency of human embryonic stem and iPS cells. Our GS2-M medium has already been shown to enable the derivation and long-term maintenance of mouse iPS cells. With this new application of GS2-M, researchers may now be able to significantly advance human pluripotent stem cell research.

In December 2010, we launched STEM101<sup>tm</sup>, STEM121<sup>tm</sup> and STEM123<sup>tm</sup>, three new antibody reagents that significantly improve the visualization of human cells, including human stem cells and their progeny. These high potency antibody reagents, which expand the range of our SC Proven<sup>®</sup> portfolio of research products, provide tools for the detection, tracking and characterization of human cells both in vitro and when transplanted into animal models of human diseases.

In January, 2011 we launched STEM24<sup>(tm)</sup> and STEM133<sup>(tm)</sup>, two new antibody reagents that have utility for the isolation and detection of a range of different human cell types.

### *Intellectual Property and Licensing Activities*

In March 2010, the United Kingdom (U.K.) Intellectual Property Office granted us patent number GB2451523 with broad claims covering true (germline competent) rat stem cells and genetically engineered rats derived from these cells. The patented technology is expected to have significant utility to academic and pharmaceutical industry researchers by enabling them to create novel rat models for the study of human diseases.

In August 2010, we announced that our technology was used by independent researchers to achieve the first genetically engineered rat derived from rat embryonic stem cells. This breakthrough work, published in the international peer-reviewed journal *Nature*, makes possible the types of genetic manipulations previously only possible in mice. Both mice and rats are used as animal models of human disease; however certain aspects of the rat's physiology, behavior, and metabolism are closer to the human, making rats the preferred species for drug development and studying human disease.

### *Financing and Other Business-related Activities*

In June 2010, we appointed R. Scott Greer to our Board of Directors. Mr. Greer is a successful entrepreneur with a proven track record in developing and growing life sciences companies, and adds more than twenty-five years of life sciences and financial services industry experience to our Board. In addition, we reconstituted our Strategic Transactions Committee, which Mr. Greer chairs, as a standing committee of the Board.

In June 2010, we raised gross proceeds of \$6,055,000 through the sale of 7,000,000 shares of common stock to an institutional investor at a price of \$0.865 per share. No warrants were issued in this transaction. The shares were sold under our effective shelf registration statement previously filed with the Securities and Exchange Commission (SEC). As part of the agreement, the institutional investor agreed to purchase an additional 5,000,000 shares of common stock twelve weeks after the initial closing, subject to our election to sell the additional shares. In September 2010, we decided not to sell the additional shares.

In October 2010, we were awarded cash grants totaling \$977,917 for projects related to our CNS and Liver programs. These grants were certified under the federal government's Qualifying Therapeutic Discovery Project (QTDP) program, which was created as part of the Patient Protection and Affordable Care Act of 2010. All four project applications submitted by us were approved, and we received the entire grant amounts in December 2010.

In January 2011, we sold 10,000,000 shares of our common stock to selected institutional investors at a price of \$1.00 per share. We received net proceeds, after deducting offering expenses and fees, of approximately \$9,400,000. The

investors were also granted an option to purchase an additional 6,000,000 shares at \$1.00 per share. The option was not exercised and expired on February 18, 2011. The shares were offered under our effective shelf registration statement filed with the SEC on June 25, 2008.

### **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

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U.S. generally accepted accounting principles (U.S. GAAP). The preparation of these Consolidated Financial Statements requires management to make estimates, assumptions, and judgments that affect the reported amounts in our Consolidated Financial Statements and accompanying notes. These estimates form the basis for making judgments about the carrying values of assets and liabilities. We base our estimates and judgments on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, and we have established internal controls related to the preparation of these estimates. Actual results and the timing of the results could differ materially from these estimates.

### ***Warrant Liability***

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, 2010, was approximately \$6,672,000.

### ***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 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 2010, we estimated this amount based on historical experience of similar awards, giving consideration to the contractual terms of the awards, vesting requirements, and expectation of future employee behavior, including post-vesting terminations. Our estimate of the risk-free interest rate is based on U.S. Treasury debt securities with maturities close to the expected term of the option as of the date of grant. We review our valuation assumptions at each grant date and, as a result, our assumptions in future periods may change. At the end of each reporting period we estimate forfeiture rates based on our historical experience within separate groups of employees and adjust stock-based compensation expense accordingly. For the year ended December 31, 2010, employee stock-based compensation expense (stock options, restricted stock units and 401(k) Plan employer match in form of shares) was approximately \$3,930,000. As of December 31, 2010, total compensation cost related to unvested stock options and restricted stock units not yet recognized was approximately \$6,162,000, which is expected to be recognized as expense over a weighted-average period of 2.6 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,

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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 eight years (2003 through 2010) was approximately 74%, varying from 62% to 89%. As of December 31, 2010, based on current information available to management, the vacancy rate is projected to be approximately 69% for 2011, and approximately 70% from 2012 through the end of the lease. These estimates are based on actual occupancy as of December 31, 2010, 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 2011 to the end of the lease had been five percentage points higher or lower at December 31, 2010, then the reserve would have increased or decreased by approximately \$61,000. 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 \$49,000, and a 5% increase or decrease in the assumed average rental charge per square foot would have increased or decreased the reserve by approximately \$46,000. Management does not wait for specific events to change its estimate, but instead uses its best efforts to anticipate them on a quarterly basis.

For the year ended December 31, 2010, we recorded actual expenses against this reserve, net of subtenant income, of approximately \$1,219,000. Based on management's evaluation of the factors mentioned above, and particularly the projected vacancy rates described above, we adjusted the reserve in 2010 by recording an additional \$291,000 as wind-down expenses. At December 31, 2010, the reserve was \$3,300,000.

### *Australia*

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

Australia operations have been recorded against the reserve and we closed the reserve by crediting the remaining reserve balance of \$69,000 to wind-down expense.

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### ***Goodwill and Other Intangible Assets (Patent and License Costs)***

Goodwill of approximately \$1,877,000 at December 31, 2010, relates to the acquisition of SCS operations. Goodwill and intangible assets deemed to have indefinite lives are not amortized but are subject to annual impairment tests. If the assumptions and estimates used to allocate the purchase price are not correct, or if business conditions change, purchase price adjustments or future asset impairment charges could be required. We test goodwill for impairment on an annual basis or more frequently if we believe indicators of impairment exist. Impairment evaluations involve management estimates of asset useful lives and future cash flows. Significant management judgment is required in the forecasts of future operating results that are used in the evaluations, and it is possible, even likely, that the plans and estimates used may be incorrect. If our actual results, or the plans and estimates used in future impairment analysis are lower than the original estimates used to assess the recoverability of these assets, we could incur additional impairment charges in a future period. We completed our annual impairment testing during the fourth quarter of 2010, and determined that there was no impairment of goodwill.

Other intangible assets, net were approximately \$2,997,000 at December 31, 2010. 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. In 2010, we wrote-off the unamortized amount of approximately \$67,000 for certain license agreements that we terminated.

### ***Impairment of Long-Lived Tangible Assets***

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. If property, plant, and equipment are considered to be impaired, the impairment to be recognized equals the amount by which the carrying value of the assets exceeds its estimated fair market value. In 2010, we recorded a charge of approximately \$63,000, to adjust the fair value of certain lab equipment we expect to dispose. No such impairment was recognized during the years 2009 and 2008.

### ***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.



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

**Results of Operations**

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

**Revenue**

Revenue totaled approximately \$1,427,000 in 2010, \$993,000 in 2009, and \$232,000 in 2008.

	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>Change in 2010 Versus 2009</b>		<b>Change in 2009 Versus 2008</b>	
				<b>\$</b>	<b>%</b>	<b>\$</b>	<b>%</b>
Revenue							
Licensing agreements and grants	\$ 927,772	\$ 608,011	\$ 231,730	\$ 319,761	53%	\$ 376,281	162%
Product Sales	499,200	384,859		114,341	30%	384,859	*%
Total Revenue	1,426,972	992,870	231,730	434,102	44%	761,140	328%
Cost of Sales	168,424	261,443		(93,019)	(36)%	261,443	*%
Gross Profit	\$ 1,258,548	\$ 731,427	\$ 231,730	\$ 527,121	72%	\$ 499,697	216%

\* Calculation cannot be performed or is not meaningful

Total revenue in 2010 was approximately \$1,427,000, which was 44% higher than total revenue in 2009. Licensing and grant revenue for 2010 were approximately \$320,000, or 53%, higher as compared to 2009. The increase was primarily attributable to a milestone payment of approximately \$438,000 received from a licensee under terms of a license agreement, net of royalty due to NeuroSpheres, Ltd. (NeuroSpheres), an Alberta corporation from which we have licensed some of our patent rights (See Note 2, Financial Instruments in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information). In 2010, we recognized approximately \$499,000 as revenue from product sales and \$168,000 as cost of product sales, compared to approximately \$385,000 as revenue from product sales and \$261,000 as cost of products sales in 2009. The increase in 2010 compared to 2009 was primarily attributable to the consolidation of four quarters of product sales from our acquired operations in the U.K. in 2010 compared to three quarters in 2009. In 2010, approximately 12% of our product sales were in the United States, 27% in Asia and the remainder primarily in Europe.

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

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of 2008. In 2009, approximately 9% of our product sales were in the United States, 27% in Asia and the remainder primarily in Europe.

***Operating Expenses***

Operating expense totaled approximately \$30,618,000 in 2010, \$30,110,000 in 2009, and \$26,970,000 in 2008.

				<b>Change in 2010 Versus 2009</b>		<b>Change in 2009 Versus 2008</b>	
	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>\$</b>	<b>%</b>	<b>\$</b>	<b>%</b>
Operating Expenses							
Research & development	\$ 21,019,301	\$ 19,929,592	\$ 17,808,009	\$ 1,089,709	5%	\$ 2,121,583	12%
Selling, general & administrative	9,376,774	9,530,421	8,295,554	(153,647)	(2)%	1,234,867	15%
Wind-down expenses	221,991	649,608	866,199	(427,617)	(66)%	(216,591)	(25)%
Total operating expenses	\$ 30,618,066	\$ 30,109,621	\$ 26,969,762	\$ 508,445	2%	\$ 3,139,859	12%

***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 2010) were approximately \$132 million. Over this period, the majority of these cumulative costs were related to: (i) characterization of our proprietary HuCNS-SC cell, (ii) expenditures for toxicology and other preclinical studies, preparation and submission of applications to regulatory agencies to conduct clinical trials and obtaining regulatory clearance to initiate such trials, all with respect to our HuCNS-SC cells, (iii) preclinical studies and development of our human liver engrafting cells, (iv) costs associated with cell processing and process development, and (v) costs associated with our clinical studies.

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

R&D expense totaled approximately \$21,019,000 in 2010, as compared to \$19,930,000 in 2009 and \$17,808,000 in 2008. At December 31, 2010, we had 62 full-time employees working in research and development and laboratory support services as compared to 59 at December 31, 2009 and 43 at December 31, 2008.

*2010 versus 2009.* R&D expenses increased approximately \$1,090,000, or 5%, in 2010 compared to 2009. This increase was primarily attributable to (i) an increase of approximately \$328,000 in R&D expenses related to consolidation of four quarters of our acquired operations in 2010 compared to three quarters in 2009, (ii) an increase

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of approximately \$496,000 in expenses related to our clinical trials, (iii) an increase in personnel expenses of approximately \$255,000 due to an increase in head count, and (iv) a net increase of approximately \$11,000 in other operating expenses.

*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 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.

### *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 \$9,377,000 in 2010, compared with \$9,530,000 in 2009 and \$8,296,000 in 2008.

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

*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.

### *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 \$3,300,000 at December 31, 2010 and \$4,433,000 at December 31, 2009. Payments net of subtenant income were recorded against this reserve of \$1,219,000 in 2010, \$1,216,000 in 2009, and \$1,293,000 in 2008. We re-evaluated the estimate and adjusted the reserve by recording, in aggregate, additional wind-down expenses of \$291,000 in 2010, \$340,000 in 2009, and \$866,000 in 2008. 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

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with certainty a fixed date by which such events will occur. In light of this uncertainty, based on estimates, we will periodically re-evaluate and adjust the reserve, as necessary. See Note 11 Wind-down and exit costs, in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information.

***Australia***

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

**Other Income (Expense)**

Other income totaled approximately \$4,116,000 in 2010, compared with other income of approximately \$2,352,000 in 2009 and other expense of \$2,349,000 in 2008.

	2010	2009	2008	Change in 2010 Versus 2009		Change in 2009 Versus 2008	
				\$	%	\$	%
Other income							
(expense):							
Realized gain on							
sale of							
marketable							
securities	\$	\$ 406,910	\$	\$ (406,910)	(100)%	\$ 406,910	*%
Other than							
temporary							
impairment of							
marketable							
securities			(2,082,894)		*%	2,082,894	(100)%
Change in fair							
value of warrant							
liability	3,005,040	1,898,603	(937,241)	1,106,437	58%	2,835,844	(303)%
Interest income	26,728	67,345	803,095	(40,617)	(60)%	(735,750)	(92)%
Interest expense	(93,382)	(110,807)	(109,762)	17,425	(16)%	(1,045)	1%
Qualifying							
Therapeutic							
Disc. Proj. Grant	977,917			977,917	*%		

Other income (expense), net	199,664	89,732	(21,943)	109,932	123%	111,675	(508)%
Total other income (expense), net	\$ 4,115,967	\$ 2,351,783	\$ (2,348,745)	\$ 1,764,184	75%	\$ 4,700,528	(200)%

\* Calculation cannot be performed or is not meaningful.

#### ***Gain on Sale of Marketable Equity Securities***

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

#### ***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



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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, 2010 and 2009. See Note 2 Financial Instruments, in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information on this transaction.

### ***Change in Fair Value of Warrant Liability***

We record changes in fair value of outstanding warrants as income or loss in our Consolidated Statements of Operations. 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 Statements of Operations. See Note 13 Warrant Liability, in the Notes to Consolidated Financial Statements of Part II, Item 8 of this Form 10-K for further information on this transaction.

### ***Interest Income***

Interest income totaled approximately \$27,000 in 2010, \$67,000 in 2009, and \$803,000 in 2008. The decrease in interest income from 2008 to 2010 was primarily attributable to lower average yields on cash, cash equivalents, and marketable securities. The decrease for 2010 compared to 2009 was also due to lower average cash balances.

### ***Interest Expense***

Interest expense was approximately \$93,000 in 2010, \$111,000 in 2009, and \$110,000 in 2008. The decrease in interest expense in 2010 as compared to 2009 was primarily attributable to lower outstanding debt and capital lease balances. Interest expense in 2009 as compared to 2008 was relatively flat.

### ***Qualifying Therapeutic Discovery Project Grants***

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

### ***Other Income (Expense), net***

Other income, net in 2010 includes approximately \$227,000 from final settlement of various claims related to our SCS acquisition. On April 1, 2009, we acquired the operations of Stem Cell Sciences Plc (SCS, now known as Asset Realization Company Ltd.) As consideration, we issued 2,650,000 shares of our 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. Pursuant to the acquisition agreement, 20% of the 2,650,000 shares were placed into an escrow for a twelve month period to satisfy any indemnification obligations owed to us by SCS. On August 19, 2010, we entered into a settlement agreement with SCS in which the parties agreed to the release of half the escrowed shares to SCS and half to us in full satisfaction of our claims for indemnification, and both parties waived all other claims, known and unknown, against the other. The 265,000 shares returned to us are being treated as retired and no longer outstanding. We have recorded approximately \$227,000 as other income, which was the value of these shares based on the closing

price of \$0.91 per share on August 19, 2010, and net of amounts already accrued for potential claims against the escrowed shares. Other income also includes approximately \$89,000 of R&D tax credits due to our wholly-owned subsidiary Stem Cell Sciences (U.K.) Ltd. The above income was offset by other expenses, net of approximately \$116,000 primarily related to write-down of assets and state franchise taxes.

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Other income, net in 2009 was approximately \$90,000. This was primarily related to R&D tax credits of approximately \$152,000 due to our wholly-owned subsidiary Stem Cell Sciences (Australia) Pty Ltd recorded as other income. Other income for 2009 was partially offset by approximately \$59,000 in foreign exchange transaction losses and approximately \$3,000 in state franchise taxes. Other expense, net for 2008 was approximately \$22,000, 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 research grants, license fees, product sales and interest income.

	2010	2009	2008	Change in 2010 Versus 2009 \$	%	Change in 2009 Versus 2008 \$	%
At December 31:							
Cash and highly liquid investments(1)	\$ 19,707,821	\$ 38,617,977	\$ 34,037,775	\$ (18,910,156)	(49)%	\$ 4,580,202	13%
Year ended December 31:							
Net cash used in operating activities	\$ (24,519,913)	\$ (24,682,669)	\$ (22,740,421)	\$ 162,756	(1)%	\$ (1,942,248)	9%
Net cash provided by (used in) investing activities	\$ (923,964)	\$ 3,731,991	\$ 24,223,629	\$ (4,655,955)	(125)%	\$ (20,491,638)	(85)%
Net cash provided by financing activities	\$ 6,586,380	\$ 29,786,280	\$ 18,800,609	\$ (23,199,900)	(78)%	\$ 10,985,671	58%

(1) Cash and highly liquid investments include unrestricted cash, cash equivalents, and short-term and long-term marketable debt securities. Marketable equity securities, which are comprised of approximately 1,922,000 ordinary shares of ReNeuron with a market value in aggregate of approximately \$191,000, \$197,000 and \$187,000 as of December 31, 2010, 2009 and 2008, respectively 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 \$19,708,000 at December 31, 2010, compared with approximately \$38,618,000 at December 31, 2009, and \$34,038,000 at December 31, 2008. The decrease of cash and highly liquid investments of approximately \$18,910,000, or 49% in 2010 as compared to 2009, was primarily

attributable to higher proceeds from the issuance of common stock in 2009 as compared to 2010. In 2010, we received approximately \$7,279,000 as net proceeds from the issuance of common stock as compared to approximately \$29,603,000 in 2009. 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.

In January 2011, we raised gross proceeds of \$10,000,000 through the sale of 10,000,000 shares of our common stock to selected institutional investors at a price of \$1.00 per share. We received net proceeds, after deducting offering expenses and fees, of approximately \$9,400,000. The investors were also granted an option to purchase an additional 6,000,000 shares at \$1.00 per share. The option was not exercised and expired on February 18, 2011. The shares were offered under our effective shelf registration statement previously filed with the SEC. At December 31, 2010, we had cash, and cash equivalents of approximately \$19,708,000, and together with the net proceeds of this sale, would have a pro forma cash balance of approximately \$29,108,000.

#### ***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 \$24,520,000 in 2010, \$24,683,000 in 2009,

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and \$22,740,000 in 2008. Cash used in operating activities in 2010 compared to 2009 was relatively flat. 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.

***Net Cash Provided by Investing Activities***

Net cash provided by investing activities in 2010 as compared to 2009 decreased by \$4,655,955, or 125%. In 2010, our investment portfolio comprised primarily of U.S. Treasury debt securities, which are classified as cash equivalents, with no positions held in long term marketable debt securities. 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). 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 2008, we received net proceeds of approximately \$23,859,000 as marketable debt securities we held reached maturity.

***Net Cash Provided by Financing Activities***

Net cash provided by financing activities in 2010 decreased by approximately \$23,200,000, or 78%, compared to 2009, primarily due to lower net proceeds from sales of common stock. In 2010, we received aggregate net proceeds of approximately \$7,279,000 from the sale of 1,475,200 shares of common stock at an average price of \$1.16 per share under various sales agreements and the sale of 7,000,000 shares at \$0.865 per share to an institutional investor. In 2009, we received net proceeds of approximately \$29,603,000 from the sale of 9,817,400 shares of common stock at an average price of \$1.88 per share under a sales agreement and 10,000,000 units at a price of \$1.25 per unit; 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. Net cash provided by financing activities in 2009 was also higher when compared to 2008. The increase was approximately \$10,986,000, or 58%, due to higher net proceeds from sales of common stock in 2009 as compared to 2008. In 2008, we received total proceeds net of offering expenses and placement agency fees of approximately \$18,637,000 from the sale 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 and the sale of 205,600 shares at \$1.25 per share under a sales agreement.

Listed below are recent financing transactions entered into by us:

In January 2011, we sold 10,000,000 shares of our common stock to selected institutional investors at a price of \$1.00 per share. We received net proceeds, after deducting offering expenses and fees, of approximately \$9,400,000. The investors were also granted an option to purchase an additional 6,000,000 shares at \$1.00 per share. The option was not exercised and expired on February 18, 2011. The shares were offered under our effective shelf registration statement filed with the SEC on June 25, 2008.

On June 29, 2010, we sold 7,000,000 shares of our common stock to an institutional investor, at a price of \$0.865 per share. We received net proceeds, after deducting offering expenses and fees, of approximately \$5,700,000. No warrants were issued in this transaction. The shares were sold under our effective shelf registration statement previously filed with the SEC. As part of the purchase agreement, the institutional investor agreed to purchase an additional 5,000,000 shares of common stock approximately 12 weeks after the initial sale, at our option and at a purchase price to be calculated using the then-current trading price. We decided not to sell these additional shares and on September 20, 2010, we terminated the purchase agreement.

In 2010, we sold a total of 1,475,200 shares of our common stock under a sales agreement entered into in June 2009 (the 2009 sales agreement ) at an average price per share of \$1.16 for gross proceeds of approximately \$1,705,000. The sales agent is paid compensation equal to 3.0% of the gross proceeds pursuant to the terms of the agreement. The shares were offered under our effective shelf registration

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statement filed with the SEC on June 25, 2008. Under the terms of the 2009 sales agreement, we may sell up to \$30,000,000 of our common stock, from time to time through a sales agent.

Listed below are key financing transactions entered into by us in the prior 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 a shelf registration statement filed with the SEC on June 25, 2008. We received total proceeds net of offering expenses and placement agency fees of approximately \$11,985,000.

In 2009, we sold a total of 1,830,000 shares of our common stock under the 2009 sales agreement at an average price per share of \$1.80 for gross proceeds of approximately \$3,291,000. The shares were offered under our effective shelf registration statement filed with the SEC on June 25, 2008.

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 a shelf registration statement previously filed with and declared effective by the SEC. We received total proceeds net of offering expenses and placement agency fees of approximately \$18,637,000.

In 2007, 2008 and 2009, we sold a total of 10,000,000 shares of our common stock at an average price per share of \$2.06 for gross proceeds of approximately \$20,555,000. These shares were sold under a sales agreement entered into in December 2006, under which up to 10,000,000 shares may be sold from time to time under a shelf registration statement.

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

We intend to pursue opportunities to obtain additional financing in the future through equity and debt financings, grants and collaborative research arrangements. In June 2008, we filed with the SEC a universal shelf registration statement, declared effective in July 2008, which permits us to issue up to \$100 million worth of registered debt and equity securities. As of March 7, 2011, we had approximately \$41 million under this universal shelf registration statement available for issuing debt or equity securities; approximately \$30 million of this \$41 million has been reserved for the potential exercise of the warrants issued in connection with our November 2008 and November 2009 financings. In November 2010, we filed with the SEC, and the SEC declared effective, a universal shelf registration statement which permits us to issue up to \$100 million worth of registered debt and equity securities. As of March 7, 2011, we had approximately \$90 million under this universal shelf registration statement available for issuing debt or equity securities. Under these effective shelf registrations, we have the flexibility to issue registered securities, from time to time, in one or more separate offerings or other transactions with the size, price and terms to be determined at the time of issuance. Registered securities issued using this shelf may be used to raise additional capital to fund our

working capital and other corporate needs, for future acquisitions of assets, programs or businesses, and for other corporate purposes.

The source, timing and availability of any future financing will depend principally upon market conditions, interest rates and, more specifically, on our progress in our exploratory, preclinical and future clinical development programs. Funding may not be available when needed at all, or on terms acceptable to us. Lack of necessary funds may require us, among other things, to delay, scale back or eliminate some or all of our research and product



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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.

In August 2010, we were notified by NASDAQ that the closing bid price of our common stock had been below \$1.00 per share for 30 consecutive business days, and therefore we did not meet the requirements for continued listing on the NASDAQ Global Market. In accordance with NASDAQ rules, we had 180 calendar days to regain compliance with this requirement by having the closing bid price of our common stock be \$1.00 per share or higher for a minimum of ten consecutive trading days. On November 22, 2010, we regained compliance with the minimum bid price requirement for continued listing on the NASDAQ Global Market. On March 3, 2011, we were notified by NASDAQ that the closing bid price of our common stock had been below \$1.00 per share for 30 consecutive business days, and therefore we did not meet the requirements for continued listing on the NASDAQ Global Market. In accordance with NASDAQ rules, we have 180 calendar days, or until August 30, 2011, to regain compliance with this minimum bid price requirement. We can regain compliance if the closing bid price of our common stock is \$1.00 per share or higher for a minimum of ten consecutive business days during this initial 180-day compliance period. If compliance is not achieved by August 30, 2011, NASDAQ will provide written notification to us that our securities are subject to delisting. We will continue to monitor the closing bid price for our common stock and consider our available options to regain compliance with the NASDAQ minimum bid price requirement, which may include applying for an extension of the compliance period or an appeal to a NASDAQ Listing Qualifications Panel. However, there can be no assurance that we will be able to regain or maintain compliance with the minimum bid price rule or other listing criteria or that an appeal, if taken, would be successful.

## ***Commitments***

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

## ***Off-Balance Sheet Arrangements***

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

## ***Operating Leases***

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

## ***Operating Leases California***

We currently lease space in an approximately 68,000 square foot facility located at the Stanford Research Park in Palo Alto, California. The facility includes space for animals, laboratories, offices, and a GMP (Good Manufacturing Practices) suite. Prior to September 2010, we leased approximately 68,000 square feet of the facility, and were required to provide a letter of credit for approximately \$778,000, which served as a security deposit for the duration of the lease term. The letter of credit issued by our financial institution is collateralized by a certificate of deposit for the same amount, which was reflected as restricted cash in other assets, non-current on our condensed consolidated balance sheets. In September 2010, we amended our lease to reduce the area leased to 51,200 square feet, to change the expiry date of the lease term from August 31, 2011 to June 30, 2011, and to reduce the letter of credit that serves

as a security deposit to approximately \$389,000 from approximately \$778,000. The difference of approximately \$389,000 was transferred from our restricted cash account to our cash and cash equivalents account. In connection with this September 2010 lease amendment, we terminated a space-sharing agreement covering approximately 10,451 square feet of this facility. In February 2011, we amended our lease to extend the term expiry date from June 30, 2011 to August 31, 2011. For 2011, the aggregate remaining rent payment under the amended lease is approximately \$1,106,000. We recognize operating lease expense on a straight-line

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basis. At December 31, 2010, we had prepaid rent balance of approximately \$42,000. At December 31, 2009, we had a deferred rent balance of approximately \$131,000.

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

In December 2010, we entered into a commercial lease agreement with BMR-Gateway Boulevard LLC ( BMR ), as landlord, for approximately 43,000 square feet of office and research space at BMR's Pacific Research Center in Newark, California. The initial term of the lease is approximately eleven and one-half years, and we expect to relocate our corporate headquarters and core research activities to this facility in August 2011. Initial base rent is expected to be approximately \$2.20 per rentable square foot, with yearly increases throughout the term, and subject to certain adjustments for draws upon the tenant allowances among other things. We will pay approximately \$14,906,000 in aggregate as rent over the term of the lease. We anticipate that we will be constructing laboratories, offices and related infrastructure within the leased space during the first several months of the lease. As part of the lease, BMR has agreed to provide various financial allowances so that we can build to suit initial and future laboratories, offices and other tenant improvements, subject to customary terms and conditions relating to landlord-funded tenant improvements. As part of the lease, we have, until January 2013, an option to lease up to an additional 30,000 square feet in the building.

### *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 2011, we expect to pay approximately \$1,172,000 in operating lease payments and estimated operating expenses of approximately \$625,000, before receipt of sub-tenant income. For the year 2011, we expect to receive, in aggregate, approximately \$364,000 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 \$1,433,000 for 2011.

### *Operating Leases United Kingdom*

In January 2011, we amended the existing lease agreements of our wholly-owned subsidiary, Stem Cell Sciences (U.K.) Ltd, effectively reducing our leased space from approximately 5,000 square feet to approximately 1,900 square feet of office and lab space. We expect to pay approximately 55,000 GBP as rental payments for 2011. StemCells, Inc. is the guarantor of Stem Cell Sciences (U.K.) Ltd's obligations under the existing lease.

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

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

### *Indemnification Agreement*

Effective 2008, as part of an indemnification agreement with NeuroSpheres, we are entitled to offset all litigation costs incurred in this patent infringement suit, against amounts that would otherwise be owed to NeuroSpheres under

our exclusive license agreements with NeuroSpheres, such as annual maintenance fees, milestones and royalty payments. Under the terms of our license agreements, we are required to make annual payments of \$50,000 to NeuroSpheres, and we expect to make these annual payments through the remaining life of the patent which, at December 31, 2010, was approximately 14 years. We have therefore capitalized \$700,000 (14 years at \$50,000 per year) to offset litigation costs. The amount capitalized is not dependent on the achievement of any milestones or related to any other contingent payments which may become due under the arrangement. We

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will reduce this asset by \$50,000 per year in lieu of the cash payments due to NeuroSpheres. As the \$50,000 annual payments are fully creditable against royalties due to NeuroSpheres, we have classified the \$700,000 as prepaid royalties under Other assets, non-current on our accompanying Consolidated Balance Sheets. We have concluded that the estimated balance of \$700,000, as of December 31, 2010, is a fair estimate and realizable against future milestone and royalty payments to NeuroSpheres, and that litigation costs incurred above this amount will be expensed as incurred. Management will reevaluate this estimate on a quarterly basis based on actual costs and other relevant factors.

**Contractual Obligations**

In the table below, we set forth our legally binding and enforceable contractual cash obligations at December 31, 2010:

	<b>Total Obligations at 12/31/10</b>	<b>Payable in 2011</b>	<b>Payable in 2012</b>	<b>Payable in 2013</b>	<b>Payable in 2014</b>	<b>Payable in 2015</b>	<b>Payable in 2016 and Beyond</b>
Operating lease payments(1)	\$ 19,540,936	\$ 2,777,319	\$ 2,561,875	\$ 1,936,422	\$ 1,255,600	\$ 1,307,200	\$ 9,702,520
Capital lease (equipment)	91,720	73,391	18,329				
Bonds Payable (principal & interest)(2)	857,432	242,321	240,666	237,593	136,852		
Total contractual cash obligations	\$ 20,490,088	\$ 3,093,031	\$ 2,820,870	\$ 2,174,015	\$ 1,392,452	\$ 1,307,200	\$ 9,702,520

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

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

Under license agreements with NeuroSpheres, Ltd., we obtained an exclusive patent license covering all uses of certain neural stem cell technology. We made up-front payments to NeuroSpheres of 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 periodically enter into licensing agreements with third parties to obtain exclusive or non-exclusive licenses for certain technologies. The terms of certain of these agreements require us to pay future milestone payments based upon achievement of certain developmental, regulatory or commercial milestones. We do not anticipate making any milestone payments under any of our licensing agreements for 2010. Milestone payments beyond fiscal year 2010 cannot be predicted or estimated, due to the uncertainty of achieving the required developmental, regulatory or commercial milestones.

We do not have any material unconditional purchase obligations or commercial commitments related to capital expenditures, clinical development, clinical manufacturing, or other external services contracts at December 31, 2010.

### **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 either Level 2 or Level 3. The new disclosures and clarifications of existing

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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. As this guidance requires only expanded disclosures, the adoption did not and will not impact our consolidated financial condition and results of operations.

In April 2010, FASB issued Accounting Standards Update (ASU) No. 2010-17, *Revenue Recognition Milestone Method*, which provides guidance on defining a milestone and determining when it may be appropriate to apply the milestone method of revenue recognition for research or development transactions. Research or development arrangements frequently include payment provisions whereby a portion or all of the consideration is contingent upon milestone events such as successful completion of phases in a study or achieving a specific result from the research or development efforts. The amendments in this ASU provide guidance on the criteria that should be met for determining whether the milestone method of revenue recognition is appropriate. The ASU is effective for fiscal years and interim periods within those years beginning on or after June 15, 2010, with early adoption permitted. This ASU is effective for our interim and annual reporting periods beginning January 1, 2011. We adopted this standard on January 1, 2011 and it is not expected 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 \$20,097,000, or 66%, of total assets at December 31, 2010 and \$39,396,000, or 76%, of total assets at December 31, 2009. Interest income earned on these assets was approximately \$27,000 in 2010 and \$67,000 in 2009. Our interest income is sensitive to changes in the general level of interest rates, primarily U.S. interest rates. At December 31, 2010, our debt securities were primarily composed of money market accounts comprised of U.S. Treasury debt securities and repurchase agreements that are backed by U.S. Treasury debt securities. Generally, corporate obligations must have senior credit ratings of A2/A or the equivalent. See Note 1, Summary of Significant Accounting Policies Financial Instruments and Note 2 Financial Instruments section in the Notes to Consolidated Financial Statements in Part II, Item 8 of this Form 10-K for further information.

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

**Equity Security and Foreign Exchange Risks**

In July 2005, we entered into an agreement with ReNeuron Limited, a wholly owned subsidiary of ReNeuron Group plc, a listed U.K. 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



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December 31, 2010, we held approximately 1,922,000 shares of ReNeuron as marketable equity securities with a carrying and fair market value of approximately \$191,000.

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 (expense), net 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), 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 2010.

Company/Stock			No. of Shares at December 31, 2010	Share Price at December 31, 2010 in GBP(£)	Exchange Rate at December 31, 2010 1 GBP = USD	Market Value December 31, 2010	Expected Future Cash Flows
Symbol	Exchange	Risks	2010	GBP(£)	USD	2010	Flows
ReNeuron Group plc/RENE	AIM (AIM is the London Stock Exchange's Alternative Investment Market)	Lower share price Foreign currency translation Liquidity Bankruptcy	1,921,924	0.0645	1.5392	\$ 190,806	(1)

- (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.

Another foreign exchange risk is our exposure to foreign currency exchange rates on the earnings, cash flows and financial position of our foreign subsidiary in the United Kingdom. Financial statements of our foreign subsidiary are translated into U.S. dollars from U.K. pounds (GBP), using period-end exchange rates for assets and liabilities and average exchange rates for revenues and expenses. Adjustments resulting from translating net assets are reported as a separate component of Accumulated other comprehensive income (loss) within shareholders' equity under the caption Unrealized gain (loss) on foreign currency translation. A hypothetical 10% weakening of the U.S. dollar in relation to the GBP would have resulted in an approximate \$238,000 increase in our net loss reported for the year ended December 31, 2010. 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.

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

**STEMCELLS, INC.**

**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

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<u>Consolidated Statements of Operations</u>	62
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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, 2010 and 2009, 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, 2010. 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, 2010 and 2009, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2010, 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, 2010, 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 11, 2011 expressed an unqualified opinion thereon.

/s/ GRANT THORNTON LLP

San Francisco, California  
March 11, 2011

**Table of Contents****StemCells, Inc.****Consolidated Balance Sheets**

	<b>December 31,</b>	
	<b>2010</b>	<b>2009</b>
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 19,707,821	\$ 38,617,977
Marketable securities, current	190,804	196,995
Trade receivables	118,890	87,019
Other receivables	151,144	679,034
Prepaid assets	610,980	560,144
Other current assets	389,039	
Total current assets	21,168,678	40,141,169
Property, plant and equipment, net	2,626,821	2,856,695
Other assets, non-current	1,931,871	2,525,185
Goodwill	1,877,315	2,019,679
Other intangible assets, net	2,996,888	3,647,596
Total assets	\$ 30,601,573	\$ 51,190,324
<b>LIABILITIES AND STOCKHOLDERS EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 1,098,962	\$ 890,582
Accrued expenses and other current liabilities	2,828,168	3,760,438
Accrued wind-down expenses, current	1,310,571	1,449,810
Deferred revenue, current	45,885	119,542
Capital lease obligation, current	67,847	68,000
Deferred rent, current		80,392
Bonds payable, current	176,250	161,250
Total current liabilities	5,527,683	6,530,014
Capital lease obligation, non-current	17,979	85,826
Bonds payable, non-current	522,500	698,750
Fair value of warrant liability	6,671,929	9,676,968
Deposits and other long-term liabilities	276,439	466,211
Accrued wind-down expenses, non-current	1,989,800	3,056,675
Deferred rent, non-current	1,227	50,600
Deferred revenue, non-current	113,387	130,213
Total liabilities	15,120,944	20,695,257
Commitments and contingencies (Note 12)		
Stockholders' equity:	1,273,128	1,183,495

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Common stock, \$0.01 par value; 250,000,000 shares authorized; issued and outstanding 127,312,870 at December 31, 2010 and 118,349,587 at December 31, 2009

Additional paid-in capital	325,359,265	314,944,784
Accumulated deficit	(311,271,486)	(286,027,935)
Accumulated other comprehensive income	119,722	394,723
Total stockholders' equity	15,480,629	30,495,067
Total liabilities and stockholders' equity	\$ 30,601,573	\$ 51,190,324

See Notes to Consolidated Financial Statements.

**Table of Contents****StemCells, Inc.****Consolidated Statements of Operations**

	<b>Year Ended December 31,</b>		
	<b>2010</b>	<b>2009</b>	<b>2008</b>
Revenue:			
Revenue from licensing agreements and grants	\$ 927,772	\$ 608,011	\$ 231,730
Revenue from product sales	499,200	384,859	
Total revenue	1,426,972	992,870	231,730
Cost of product sales	168,424	261,443	
Gross profit	1,258,548	731,427	231,730
Operating expenses:			
Research and development	21,019,301	19,929,592	17,808,009
Selling, general and administrative	9,376,774	9,530,421	8,295,554
Wind-down expenses	221,991	649,608	866,199
Total operating expenses	30,618,066	30,109,621	26,969,762
Operating loss	(29,359,518)	(29,378,194)	(26,738,032)
Other income (expense):			
Realized gain on sale of marketable securities		406,910	
Other than temporary impairment of marketable securities			(2,082,894)
Change in fair value of warrant liability	3,005,040	1,898,603	(937,241)
Interest income	26,728	67,345	803,095
Interest expense	(93,382)	(110,807)	(109,762)
Qualifying therapeutic discovery project grant	977,917		
Other income (expense), net	199,664	89,732	(21,943)
Total other income (expense), net	4,115,967	2,351,783	(2,348,745)
Net loss	\$ (25,243,551)	\$ (27,026,411)	\$ (29,086,777)
Basic and diluted net loss per share	\$ (0.20)	\$ (0.25)	\$ (0.35)
Shares used to compute basic and diluted loss per share	123,302,992	106,045,961	82,716,455

See Notes to Consolidated Financial Statements.

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## StemCells, Inc.

## Consolidated Statement of Stockholders' Equity

	Common Stock		Additional Paid-in	Accumulated	Accumulated Other Comprehensive Income	Total
	Shares	Amount	Capital	Deficit	(Loss)	Stockholders Equity
<b>Balances, December 31, 2007</b>	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
<b>Balances, December 31, 2008</b>	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 gain on securities available-for-sale				130,287		130,287
Comprehensive loss						(26,623,940)
Issuance of common stock and warrants, net of issuance cost of \$1,351,487	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
Compensation expense from grant of options, restricted stock units and stock (fair value)			4,046,339			4,046,339
Exercise of employee and director stock options	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
<b>Balances, December 31, 2009</b>	<b>118,349,587</b>	<b>\$ 1,183,495</b>	<b>314,944,784</b>	<b>(286,027,935)</b>	<b>394,723</b>	<b>30,495,067</b>
Comprehensive loss						
Net loss				(25,243,551)		(25,243,551)
Unrealized loss on foreign currency translation					(268,810)	(268,810)
Change in unrealized gain on securities available-for-sale					(6,191)	(6,191)
Comprehensive loss						(25,518,552)
Issuance of common stock, net of issuance cost of \$480,835	8,475,200	84,752	7,194,482			7,279,234



Common stock issued pursuant to employee benefit plan	184,876	1,849	230,380			232,229
Compensation expense from grant of options, restricted stock units and stock (fair value)			3,697,405			3,697,405
Exercise of employee and director stock options	34,507	345	19,457			19,802
Exercise and net settlement of restricted stock units	533,700	5,337	(488,743)			(483,406)
Stock retired from settlement agreement	(265,000)	(2,650)	(238,500)			(241,150)
<b>Balances, December 31, 2010</b>	127,312,870	\$ 1,273,128	\$ 325,359,265	\$ (311,271,486)	\$ 119,722	\$ 15,480,629

See Notes to Consolidated Financial Statements.

**Table of Contents****StemCells, Inc.****Consolidated Statements of Cash Flows**

	<b>Year Ended December 31,</b>		
	<b>2010</b>	<b>2009</b>	<b>2008</b>
<b>Cash flows from operating activities:</b>			
Net loss	\$ (25,243,551)	\$ (27,026,411)	\$ (29,086,777)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	1,520,772	1,694,490	1,186,428
Stock-based compensation	3,929,634	4,203,270	3,946,037
Net Gain on disposal of fixed assets	(10,462)		
Write-down of fixed assets	62,807		
Loss on disposal of intangible assets	67,151		
Gain from settlement agreement, net	(226,580)		
Gain on sale of marketable securities		(406,910)	
Other than temporary impairment of marketable securities			2,082,894
Change in fair value of warrant liability	(3,005,040)	(1,898,603)	937,241
Changes in operating assets and liabilities:			
Other receivables	550,282	275,726	100,427
Trade receivables	(39,146)		
Prepaid and other current assets	(437,110)	129,747	387,240
Other assets	601,532	(436,424)	(358,449)
Accounts payable and accrued expenses	(808,722)	477,170	(936,479)
Accrued wind-down expenses	(1,202,733)	(1,027,242)	(630,174)
Deferred revenue	(79,211)	(361,329)	(16,826)
Deferred rent	(129,764)	(306,153)	(290,390)
Deposits and other long-term liabilities	(69,772)		(61,593)
Net cash used in operating activities	(24,519,913)	(24,682,669)	(22,740,421)
<b>Cash flows from investing activities:</b>			
Purchases of marketable debt securities		(4,976,959)	(4,822,684)
Sales or maturities of marketable debt securities		8,994,806	28,681,708
Proceeds from sales of marketable equity securities		510,213	
Repayment received under note receivable			1,000,000
Advance made under note receivable		(79,829)	(298,032)
Purchases of property, plant and equipment	(923,964)	(701,240)	(312,988)
Purchase of intangibles and other assets		(15,000)	(24,375)
Net cash provided by (used in) investing activities	(923,964)	3,731,991	24,223,629
<b>Cash flows from financing activities:</b>			
Proceeds from issuance of common stock, net	7,279,234	29,602,953	18,826,865
Proceeds from the exercise of stock options	19,802	252,984	127,524
	(483,406)	(380,548)	

Payments related to net share issuance of stock based  
awards

Proceeds from the exercise of warrants		331,501	
Proceeds (repayments) of capital lease obligations	(68,000)	128,557	(17,531)

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**Table of Contents****StemCells, Inc.****Consolidated Statements of Cash Flows (Continued)**

	<b>Year Ended December 31,</b>		
	<b>2010</b>	<b>2009</b>	<b>2008</b>
Repayments of bonds payable	(161,250)	(149,167)	(136,249)
Net cash provided by financing activities	6,586,380	29,786,280	18,800,609
Increase (decrease) in cash and cash equivalents	(18,857,497)	8,835,602	20,283,817
Cash and cash equivalents at beginning of year	38,617,977	30,042,986	9,759,169
Effects of foreign currency rate changes on cash	(52,659)	(260,611)	
Cash and cash equivalents at end of the year	\$ 19,707,821	\$ 38,617,977	\$ 30,042,986
Supplemental disclosure of cash flow information:			
Interest paid	\$ 93,382	\$ 110,807	\$ 109,762
Supplemental schedule of non-cash investing and financing activities:			
Stock retired from settlement agreement(1)	\$ 241,150		
Stock issued as part of our acquisition of the operations of SCS Plc(1)		\$ 4,425,500	
Forgiveness of principal and accrued interest on notes receivable(1)		\$ 709,076	
Stock issued for licensing agreements(2)		\$ 10,000	\$ 10,000

(1) On April 1, 2009, we acquired the operations of Stem Cell Sciences Plc (SCS, now known as Asset Realisation Company Limited). As consideration, we issued 2,650,000 shares of our 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. Pursuant to the acquisition agreement, 20% of the 2,650,000 shares were placed into an escrow for a twelve month period to satisfy any indemnification obligations owed to us by SCS. On August 19, 2010, we entered into a settlement agreement with SCS in which the parties agreed to the release of half the escrowed shares to SCS and half to us in full satisfaction of our claims for indemnification, and both parties waived all other claims, known and unknown, against the other. The 265,000 shares returned to us are being treated as retired and no longer outstanding. We have recorded approximately \$227,000 as other income, which was the value of these shares based on the closing price of \$0.91 per share on August 19, 2010, and net of amounts already accrued for potential claims against the escrowed shares.

(2) Under terms of a license agreement with the California Institute of Technology (Cal Tech), annual fees of \$5,000 were due on each of two patents to which StemCells holds a license from Cal Tech, payable in cash or stock at

our choice. We elected to pay the fees in common stock and issued shares of 5,900 in 2009, and 6,924 in 2008. In September 2010, we terminated all our licensing agreements with Cal Tech.

See Notes to Consolidated Financial Statements.

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**StemCells, Inc.**

**Notes to Consolidated Financial Statements**

**December 31, 2010**

**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 \$311 million at December 31, 2010. We have not derived significant revenue from the sale of products, and do not expect to receive significant revenue from product sales for at least several years. We may never be able to realize sufficient revenue to achieve or sustain profitability in the future.

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

***Principles of Consolidation***

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

***Use of Estimates***

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

Significant estimates include the following:

accrued wind-down expenses (see Note 11, *Wind-Down and Exit Costs* );

the fair value of share-based awards recognized as compensation (see Note 10, *Stock-Based Compensation* );

valuation allowance against net deferred tax assets (see Note 18, *Income Taxes* );

the fair value of warrants recorded as a liability (see Note 13, *Warrant Liability* ); and

the fair value of intangible assets acquired (see Note 5, *Acquisition of SCS Operations* ).

**Table of Contents****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.

***Trade and Other Receivables***

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

***Estimated Fair Value of Financial Instruments***

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

***Property, Plant and Equipment***

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

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

Repairs and maintenance costs are expensed as incurred.



***Business Combinations***

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

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)*****Goodwill and Other Intangible Assets (Patent and License Costs)***

Goodwill of approximately \$1,877,000 at December 31, 2010, relates to the acquisition of SCS operations. Goodwill and intangible assets deemed to have indefinite lives are not amortized but are subject to annual impairment tests. If the assumptions and estimates used to allocate the purchase price are not correct, or if business conditions change, purchase price adjustments or future asset impairment charges could be required. We test goodwill for impairment on an annual basis or more frequently if we believe indicators of impairment exist. Impairment evaluations involve management estimates of asset useful lives and future cash flows. Significant management judgment is required in the forecasts of future operating results that are used in the evaluations, and it is possible, even likely, that the plans and estimates used may be incorrect. If our actual results, or the plans and estimates used in future impairment analysis are lower than the original estimates used to assess the recoverability of these assets, we could incur additional impairment charges in a future period. We completed our annual impairment testing during the fourth quarter of 2010, and determined that there was no impairment of goodwill.

Other intangible assets, net were approximately \$2,997,000 at December 31, 2010. 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. In 2010, we wrote-off the unamortized amount of approximately \$67,000 for certain license agreements that we terminated.

***Impairment of Long-Lived Tangible Assets***

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. If property, plant, and equipment are considered to be impaired, the impairment to be recognized equals the amount by which the carrying value of the assets exceeds its estimated fair market value. In 2010, we recorded a charge of approximately \$63,000, to adjust the fair value of certain lab equipment we expect to dispose. No such impairment was recognized during the years 2009 and 2008.

***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 equity classification, we are required to classify the fair value of the warrants issued as a liability, with subsequent changes in fair value to be recorded as income (loss) on change in fair value of warrant liability. The fair value of the warrants 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. Revenue from licensing agreements is recognized net of a fixed percentage due to licensors as royalties.

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

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

***Research and Development Costs***

Our research and development expenses consist primarily of salaries and related personnel expenses; costs associated with clinical trials and regulatory submissions; costs associated with preclinical activities such as toxicology studies; certain patent-related costs such as licensing; facilities-related costs such as depreciation; lab equipment and supplies. Clinical trial expenses include payments to vendors such as clinical research organizations, contract manufacturers, clinical trial sites, laboratories for testing clinical samples and consultants. All research and development costs are expensed as incurred.

***Stock-Based Compensation***

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

***Income Taxes***

When accounting for income taxes, we recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. Income tax receivables and liabilities and deferred tax assets and liabilities are recognized based on the amounts that

more likely than not will be sustained upon ultimate settlement with taxing authorities.

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

**Table of Contents****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:

	<b>2010</b>	<b>2009</b>	<b>2008</b>
Net loss	\$ (25,243,551)	\$ (27,026,411)	\$ (29,086,777)
Weighted average shares outstanding used to compute basic and diluted net loss per share	123,302,992	106,045,961	82,716,455
Basic and diluted net loss per share	\$ (0.20)	\$ (0.25)	\$ (0.35)

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:

	<b>2010</b>	<b>2009</b>	<b>2008</b>
Outstanding options	10,982,415	9,260,812	8,340,530
Restricted stock units	4,695,055	2,437,901	1,650,000

Outstanding warrants	14,344,828	14,344,828	11,599,828
Total	30,022,298	26,043,541	21,590,358

***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, 2010, 2009 and 2008 has been reflected in the Consolidated Statements of Stockholders' Equity.

**Table of Contents****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:

	<b>2010</b>	<b>2009</b>	<b>2008</b>
Net unrealized gain (loss) on marketable securities	\$ 116,348	\$ 122,539	\$ (7,748)
Unrealized gain on foreign currency translation	3,374	272,184	
Accumulated other comprehensive income (loss)	\$ 119,722	\$ 394,723	\$ (7,748)

The activity in OCI is as follows:

	<b>2010</b>	<b>2009</b>	<b>2008</b>
Net change in unrealized gains and losses on marketable securities	\$ (6,191)	\$ 130,287	\$ (1,806,768)
Recognition in net loss, other than temporary impairment of marketable securities			2,082,894
Net change in unrealized gains and losses on foreign currency translations	(268,810)	272,184	
Other comprehensive income (loss)	\$ (275,001)	\$ 402,471	\$ 276,126

***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 either 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. As this guidance requires only expanded disclosures, the adoption did not and will not impact our consolidated financial condition and results of operations.

In April 2010, FASB issued Accounting Standards Update (ASU) No. 2010-17, *Revenue Recognition Milestone Method*, which provides guidance on defining a milestone and determining when it may be appropriate to apply the milestone method of revenue recognition for research or development transactions. Research or development arrangements frequently include payment provisions whereby a portion or all of the consideration is contingent upon milestone events such as successful completion of phases in a study or achieving a specific result from the research or



development efforts. The amendments in this ASU provide guidance on the criteria that should be met for determining whether the milestone method of revenue recognition is appropriate. The ASU is effective for fiscal years and interim periods within those years beginning on or after June 15, 2010, with early adoption permitted. This ASU is effective for our interim and annual reporting periods beginning January 1, 2011. We adopted this new standard on January 1, 2011 and it is not expected to have a material effect on our consolidated financial condition and results of operations.

Table of Contents**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:

	<b>Amortized Cost</b>	<b>Gross Unrealized Gains</b>	<b>Gross Unrealized Losses</b>	<b>Fair Value</b>
<b>December 31, 2010</b>				
Cash	\$ 1,001,868	\$	\$	\$ 1,001,868
Cash equivalents (money market accounts)	18,705,953			18,705,953
Marketable equity securities, current	74,456	116,348		190,804
Total cash, cash equivalents, and marketable securities	\$ 19,782,277	\$ 116,348	\$	\$ 19,898,625
<b>December 31, 2009</b>				
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

At December 31, 2010, 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. From time to time, we carry cash balances in excess of federally insured limits. Our cash balance at December 31, 2010 includes approximately \$40,000 held in 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 U.K. 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, 2010, we held approximately 1,922,000 shares of ReNeuron as marketable equity securities with a carrying and fair market value of approximately \$191,000.

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

**Table of Contents****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), 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, 2010 and 2009.

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

We do not hold any investments that were in an unrealized loss position as of December 31, 2010.

***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**

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

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

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

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

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

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)**

Assets measured at fair value as of December 31, 2010 and 2009 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:

	<b>Fair Value Measurement at Reporting Date Using Quoted Prices in Active Markets for</b>		<b>Significant Other Observable Inputs</b>	<b>As of December 31, 2010</b>
	<b>Identical Assets (Level 1)</b>		<b>(Level 2)</b>	
Financial Assets				
Cash Equivalents:				
Money market funds	\$ 468,623	\$		\$ 468,623
U.S. Treasury obligations	18,237,330			18,237,330
Marketable Securities:				
Equity securities	190,804			190,804
Total financial assets	\$ 18,896,757	\$		\$ 18,896,757
Financial Liabilities				
Bond obligation	\$	\$ 698,750		\$ 698,750
Warrant liabilities		6,671,929		6,671,929
Total financial liabilities	\$	\$ 7,370,679		\$ 7,370,679

**Note 4. Property, Plant and Equipment**

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

	<b>2010</b>	<b>2009</b>
Building and improvements	\$ 3,557,342	\$ 3,422,002
Machinery and equipment	7,586,385	7,322,195
Furniture and fixtures	398,262	377,808

	11,541,989	11,122,005
Less accumulated depreciation and amortization	(8,915,168)	(8,265,310)
Property, plant and equipment, net	\$ 2,626,821	\$ 2,856,695

Depreciation expense was approximately \$1,093,000 in 2010, \$1,364,000 in 2009, and \$1,045,000 in 2008.

#### **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.

**Table of Contents****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:

	<b>Allocated Purchase Price</b>	<b>Estimated Life of Intangible Assets in Years</b>
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-process research and development assets relate to: 1) the acquisition of certain intellectual property rights not expected to expire until 2027 related to our program focused on developing genetically engineered rat models of human disease (our Transgenic Rat Program); and 2) the acquisition of certain technology related to the commercialization of our SC Proven cell culture products and the development and commercialization of cell-based assay platforms for use in drug discovery and development (our Assay Development Program).

At the time of valuation (April 2009), the technology related to our Transgenic Rat Program was in its nascent stage, and therefore we concluded that the remaining 19 years of legal life of the intellectual property was appropriate as the remaining useful life for this technology.

As for our Assay Development Program, at the time of valuation (April 2009), we expected to achieve proof of concept by 2012. Due to the foundational nature of our Assay Development Program patents and technologies, we expect the technologies to remain useful and relevant within the industry for at least 10 years following commercial launch of a product or service under our Assay Development Program. Because these technologies are not expected to begin generating revenue until 2011-2012, we estimated the remaining useful life for these technologies to be approximately 13 years from the valuation date.



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

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

Table of Contents**StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)****Note 6. Goodwill and Other Intangible Assets**

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

The following table represents changes in goodwill:

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

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

	Estimated Useful Life	December 31, 2010			December 31, 2009		
		Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
Customer relationships and developed technology	6-9	\$ 1,400,050	\$ 313,794	\$ 1,086,256	\$ 1,470,544	\$ 95,287	\$ 1,375,257
In-process research and development	13-19	1,432,112	166,888	1,265,224	1,504,220	97,469	1,406,751
Trade name	15	331,309	38,652	292,657	347,991	15,500	332,491
Patents	17	979,612	626,861	352,751	979,612	571,058	408,554

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License agreements	17	1,533,873	1,533,873		1,800,999	1,676,456	124,543
Total		\$ 5,676,956	\$ 2,680,068	\$ 2,996,888	\$ 6,103,366	\$ 2,455,770	\$ 3,647,596

Amortization expense was approximately \$427,000 in 2010, \$336,000 in 2009, and \$142,000 in 2008.

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

**For the year ending December 31:**

2011	\$ 352,565
2012	352,565
2013	352,565
2014	352,565
2015	352,565

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)****Note 7. Other Assets**

Other assets at December 31 are summarized below:

	<b>2010</b>	<b>2009</b>
Prepaid royalties	\$ 772,096	\$ 978,583
Security deposit (buildings lease)	1,159,775	768,523
Restricted cash (letter of credit)		778,079
Total other non-current assets	\$ 1,931,871	\$ 2,525,185

**Note 8. Accounts Payable**

Accounts payable at December 31 are summarized below:

	<b>2010</b>	<b>2009</b>
External services	\$ 516,970	\$ 485,172
Supplies	301,355	192,349
Other	280,637	213,061
Total accounts payable	\$ 1,098,962	\$ 890,582

**Note 9. Accrued Expenses and Other Current Liabilities**

Accrued expenses at December 31 are summarized below:

	<b>2010</b>	<b>2009</b>
External services	\$ 301,521	\$ 512,621
Employee compensation	2,153,922	2,071,717
Grant funds to be disbursed(1)		576,987
Other	372,725	599,113
Total accrued expenses and other current liabilities	\$ 2,828,168	\$ 3,760,438

(1)

Relates to funds received from the European Commission by our subsidiary, Stem Cell Sciences (U.K.) Ltd., on behalf of various parties to an EU grant consortium agreement. As co-ordinator for the consortium, we receive and disburse funds to the various parties of the consortium. These funds were disbursed in January 2010.

**Note 10. Stock-Based Compensation**

We currently grant stock-based compensation under three equity incentive plans. As of December 31, 2010, we had 23,759,050 shares authorized under these three plans. At our annual stockholders meeting held on June 12, 2007, our stockholders approved an amendment to our 2006 Equity Incentive Plan to provide for an annual increase in the number of shares of common stock available for issuance under the plan each January 1 (beginning January 1, 2008) equal to 4% of the outstanding common shares as of that date. The amendment further provided an aggregate limit of 30,000,000 shares issuable pursuant to incentive stock option awards under the plan. Under these three plans we may grant incentive stock options, nonqualified stock options, stock appreciation rights, restricted stock, restricted stock units, 401(k) Plan employer match in form of shares and performance-based shares to our employees, directors and consultants, at prices determined by our Board of Directors. Incentive stock options may only be granted to employees under these plans with a grant price not less than the fair market value on the date of grant.

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)**

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

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

	<b>2010</b>	<b>2009</b>	<b>2008</b>
Research and development expense	\$ 2,034,007	\$ 2,208,440	\$ 1,992,508
General and administrative expense	1,895,627	1,994,830	1,953,529
Total stock-based compensation expense and effect on net loss	\$ 3,929,634	\$ 4,203,270	\$ 3,946,037

As of December 31, 2010, we have approximately \$6,162,000 of total unrecognized compensation expense related to unvested awards granted under our various share-based plans that we expect to recognize over a weighted-average period of 2.6 years.

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

	<b>2010</b>	<b>2009</b>	<b>2008</b>
Expected term (years)(1)	7.2	7.3	7.2
Risk-free interest rate(2)	2.9%	2.8%	3.2%
Expected volatility(3)	88.4%	93.1%	94.0%
Expected dividend yield(4)	0%	0%	0%

(1) The expected term represents the period during which our stock-based awards are expected to be outstanding. In 2010 and 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.

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

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

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

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

Table of Contents**StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)**

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

	<b>Number of</b>	<b>Outstanding Options</b>		<b>Aggregate</b>
	<b>Shares</b>	<b>Weighted-Average Exercise Price</b>	<b>Weighted-Average Remaining Contractual Term</b>	<b>Intrinsic Value(1)</b>
<b>Balance at December 31, 2007</b>	9,028,810	\$ 2.36	7.3	\$ 826,558
Granted	353,000	\$ 1.24		
Exercised	(114,700)	\$ 1.11		\$ 38,563
Cancelled (forfeited and expired)	(926,580)	\$ 2.44		
<b>Balance at December 31, 2008</b>	8,340,530	\$ 2.32	6.6	\$ 692,739
Granted	1,545,800	\$ 1.70		
Exercised	(290,777)	\$ 0.76		\$ 281,979
Cancelled (forfeited and expired)	(334,741)	\$ 1.93		
<b>Balance at December 31, 2009</b>	9,260,812	\$ 2.28	6.2	\$ 434,092
Granted	2,578,500	\$ 1.07		
Exercised	(34,507)	\$ 0.57		\$ 13,418
Cancelled (forfeited and expired)	(822,390)	\$ 2.05		
<b>Balance at December 31, 2010</b>	10,982,415	\$ 2.02	6.1	\$ 398,219
Exercisable at December 31, 2010	7,617,254	\$ 2.33	4.8	\$ 297,479
Vested and expected to vest(2)	10,453,996	\$ 2.05	5.9	\$ 381,857

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

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

The estimated weighted average fair value per share of options granted was approximately \$0.84 in 2010, \$1.37 in 2009, and \$1.00 in 2008, based on the assumptions in the Black-Scholes model discussed above. Total intrinsic value of options exercised at time of exercise was approximately \$13,418 in 2010, \$282,000 in 2009, and \$39,000 in 2008.

The following is a summary of changes in unvested options:



<b>Unvested Options</b>	<b>Number of Options</b>	<b>Weighted Average Grant Date Fair Value</b>
Unvested options at December 31, 2009	2,613,057	\$ 1.53
Granted	2,578,500	\$ 0.84
Vested	(1,345,151)	\$ 1.62
Cancelled	(481,245)	\$ 1.10
Unvested options at December 31, 2010	3,365,161	\$ 1.03

The estimated fair value of options vested were approximately \$2,179,000 in 2010, \$2,606,000 in 2009 and \$3,671,000 in 2008.

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)**

The following table presents weighted average exercise price and remaining term information about significant option groups outstanding at December 31, 2010:

<b>Options Outstanding at December 31, 2010</b>				
<b>Range of</b>		<b>Weighted</b>	<b>Weighted</b>	<b>Aggregate Intrinsic</b>
<b>Exercise Prices</b>	<b>Number</b>	<b>Average</b>	<b>Average</b>	<b>Value at</b>
	<b>Outstanding</b>	<b>Remaining</b>	<b>Exercise</b>	<b>December 31,</b>
		<b>Term (Yrs.)</b>	<b>Price</b>	<b>2010</b>
Less than \$2.00	5,452,770	7.2	\$ 1.27	\$ 398,219
\$2.00 - \$3.99	4,904,112	5.1	\$ 2.42	
\$4.00 - \$5.99	625,533	4.6	\$ 5.29	
	10,982,415		\$ 2.02	\$ 398,219

<b>Vested Options Outstanding at December 31, 2010</b>			
<b>Range of Exercise Prices</b>	<b>Number</b>	<b>Weighted</b>	
	<b>Outstanding</b>	<b>Average</b>	
		<b>Exercise Price</b>	
Less than \$2.00	2,341,906	\$ 1.35	
\$2.00 - \$3.99	4,649,815	\$ 2.43	
\$4.00 - \$5.99	625,533	\$ 5.28	
	7,617,254	\$ 2.33	

***Restricted Stock Units***

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

A summary of our restricted stock unit activity for the year ended December 31, 2010 is as follows:

<b>Number of</b>	<b>Weighted</b>
<b>RSUs</b>	<b>Average</b>
	<b>Grant Date Fair</b>
	<b>Value</b>

Outstanding at January 1, 2010	2,437,901	\$	1.49
Granted	3,425,667	\$	1.03
Vested RSUs	(927,846)	\$	1.20
Cancelled	(240,667)	\$	1.15
Outstanding at December 31, 2010	4,695,055	\$	1.23
Vested RSUs outstanding at December 31, 2010	30,000	\$	1.51
Unvested RSUs outstanding at December 31, 2010(1)	4,665,055	\$	1.23

- (1) 55,000 of these restricted stock units vest and convert into shares of our common stock after one year from the date of grant. 2,380,754 of these restricted stock units vest and convert into shares of our common stock over a three year period from the date of grant: one-third of the award will vest on each grant date anniversary following the grant. 2,069,301 of these restricted stock units vest and convert into shares of our common stock over a four year period from the date of grant: one-fourth of the award will vest on each grant date anniversary following the grant. 160,000 of these restricted stock units will vest and convert into shares of our common stock subject to attainment of certain performance criteria and will be forfeited if not met.

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)*****Stock Appreciation Rights***

In July 2006, we granted cash-settled Stock Appreciation Rights (SARs) to certain employees under the 2006 Equity Incentive Plan. The SARs give the holder the right, upon exercise, to the difference between the price per share of our common stock at the time of exercise and the exercise price of the SAR. The exercise price of the SAR is equal to the market price of our common stock at the date of grant. The SARs vest 25% on the first anniversary of the grant date and 75% vest monthly over the remaining three-year service period. Compensation expense is based on the fair value of SARs which is calculated using the Black-Scholes option pricing model. The stock-based compensation expenses and liability are re-measured at each reporting date through the date of settlement. The stock-based compensation liability as re-measured at December 31, 2010 was \$264,955.

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

	<b>2010</b>		<b>2009</b>		<b>2008</b>	
	<b>Number</b>	<b>Weighted Average Exercise Price</b>	<b>Number</b>	<b>Weighted Average Exercise Price</b>	<b>Number</b>	<b>Weighted Average Exercise Price</b>
Outstanding at January 1, Granted	1,430,849	\$ 2.00	1,430,849	\$ 2.00	1,478,219	\$ 2.00
Exercised						
Forfeited	(76,761)				(47,370)	\$ 2.00
Outstanding at December 31,	1,354,088	\$ 2.00	1,430,849	\$ 2.00	1,430,849	\$ 2.00
Exercisable at December 31,	1,354,088	\$ 2.00	1,222,178	\$ 2.00	864,467	\$ 2.00

The total compensation expense related to SARs was approximately \$108,000 in 2009 and \$73,000 in 2008. For the year ended December 31, 2010, we re-measured the liability related to the SARs and reduced compensation expense by approximately \$344,000. The resulting effect on net loss and net loss per share attributable to common stockholders is not likely to be representative of the effects in future periods, due to changes in the fair value calculation which is dependent on the stock price, volatility, interest and forfeiture rates, additional grants and subsequent periods of vesting. We will continue to recognize compensation cost each period, which will be the change in fair value from the previous period through the earlier date of settlement or forfeiture of the SARs.

**Note 11. Wind-down and exit costs*****Rhode Island***

In October 1999, we relocated to California from Rhode Island and established a wind-down reserve for the estimated lease payments and operating costs of the Rhode Island facilities. Even though we intend to dispose of the facility at

the earliest possible time, we cannot determine with certainty a fixed date by which such disposal will occur. In light of this uncertainty, we periodically re-evaluate and adjust the reserve. We consider various factors such as our lease payments through to the end of the lease, operating expenses, the current real estate market in Rhode Island, and estimated subtenant income based on actual and projected occupancy.

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)**

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

	<b>2010</b>	<b>2009</b>
Accrued wind-down reserve at beginning of period	\$ 3,572,000	\$ 4,448,000
Less actual expenses recorded against estimated reserve during the period	(1,219,000)	(1,216,000)
Additional expense recorded to revise estimated reserve at period-end	291,000	340,000
Revised reserve at period-end	2,644,000	3,572,000
Add deferred rent at period end	656,000	861,000
Total accrued wind-down expenses at period-end (current and non current)	\$ 3,300,000	\$ 4,433,000
Accrued wind-down expenses, current portion	\$ 1,311,000	\$ 1,376,000
Non current portion	1,989,000	3,057,000
Total accrued wind-down expenses	\$ 3,300,000	\$ 4,433,000

***Australia***

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

	<b>2010</b>	<b>2009</b>
Accrued wind-down reserve beginning balance	\$ 74,000	\$ 310,000
Less actual expenses net of foreign currency translation recorded against estimated reserve during the period	(5,000)	(236,000)
Credit recorded to wind-down expense to close reserve	(69,000)	
Accrued wind-down reserve ending balance	\$	\$ 74,000

**Note 12. Commitments and Contingencies**

***Leases***

***Bonds Payable***

We entered into direct financing transactions with the State of Rhode Island and received proceeds from the issuance of industrial revenue bonds totaling \$5,000,000 to finance the construction of Rhode Island's pilot manufacturing facility. The related lease agreements are structured such that lease payments fully fund all semiannual interest payments and annual principal payments through maturity in August 2014. Interest rate for the remaining bond series is 9.5%. The outstanding principal and interest owed at December 31, 2010 was

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**StemCells, Inc.**

**Notes to Consolidated Financial Statements (Continued)**

approximately \$857,000. The bonds contain certain restrictive covenants which limit, among other things, the payment of cash dividends and the sale of the related assets.

*Operating leases*

We entered into a fifteen-year lease agreement for a laboratory facility in Rhode Island in connection with a sale and leaseback arrangement in 1997. The lease term expires June 30, 2013. The lease contains escalating rent payments, which we recognize on a straight-line basis. At December 31, 2010, deferred rent expense was approximately \$656,000 for this facility and is included as part of the wind-down accrual on the accompanying Consolidated Balance Sheets.

We currently lease space in an approximately 68,000 square foot facility located at the Stanford Research Park in Palo Alto, California. The facility includes space for animals, laboratories, offices, and a GMP (Good Manufacturing Practices) suite. Prior to September 2010, we leased approximately 68,000 square feet of the facility, and were required to provide a letter of credit for approximately \$778,000, which served as a security deposit for the duration of the lease term. The letter of credit issued by our financial institution is collateralized by a certificate of deposit for the same amount, which was reflected as restricted cash in other assets, non-current on our condensed consolidated balance sheets. In September 2010, we amended our lease to reduce the area leased to 51,200 square feet, to change the expiry date of the lease term from August 31, 2011 to June 30, 2011, and to reduce the letter of credit that serves as a security deposit to approximately \$389,000 from approximately \$778,000. The difference of approximately \$389,000 was transferred from our restricted cash account to our cash and cash equivalents account. In connection with this September 2010 lease amendment, we terminated a space-sharing agreement covering approximately 10,451 square feet of this facility. In February 2011, we amended our lease to extend the term expiry date from June 30, 2011 to August 31, 2011. For the year 2011, the aggregate remaining rent payment under the amended lease is approximately \$1,106,000. We recognize operating lease expense on a straight-line basis. At December 31, 2010, we had prepaid rent balance of approximately \$42,000. At December 31, 2009, we had a deferred rent balance of approximately \$131,000.

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

In December 2010, we entered into a commercial lease agreement with BMR-Gateway Boulevard LLC ( BMR ), as landlord, for approximately 38,000 square feet of office and research space at BMR's Pacific Research Center in Newark, California. The initial term of the lease is approximately eleven and one-half years, and we expect to relocate our corporate headquarters and core research activities to this facility in August 2011. Initial base rent is expected to be approximately \$2.20 per rentable square foot, with yearly increases throughout the term, and subject to certain adjustments for draws upon the tenant allowances among other things. We will pay approximately \$14,906,000 in aggregate as rent over the term of the lease. We anticipate that we will be constructing laboratories, offices and related infrastructure within the leased space during the first several months of the lease. As part of the lease, BMR has agreed to provide various financial allowances so that we can build to suit initial and future laboratories, offices and other tenant improvements, subject to customary terms and conditions relating to landlord-funded tenant improvements. As part of the lease, we have, until January 2013, an option to lease up to an additional 30,000 square feet in the building.



In January 2011, we amended the existing lease agreements of our wholly-owned subsidiary, Stem Cell Sciences (U.K.) Ltd, effectively reducing our leased space from approximately 5,000 square feet to approximately 1,900 square feet of office and lab space. We expect to pay approximately \$85,000 as rental payments for 2011. StemCells, Inc. is the guarantor of Stem Cell Sciences (U.K.) Ltd's obligations under the existing lease.

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)**

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

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

	<b>2010</b>	<b>2009</b>	<b>2008</b>
Rent expense	\$ 3,326,862	\$ 3,215,424	\$ 3,077,430
Sublease income	(622,910)	(770,431)	(809,065)
Rent expense, net	\$ 2,703,952	\$ 2,444,993	\$ 2,268,365

Future minimum payments under all leases and bonds payable at December 31, 2010 are as follows:

	<b>Bonds Payable</b>	<b>Capital Leases</b>	<b>Operating Leases</b>	<b>Sublease Income</b>
2011	\$ 242,321	\$ 73,391	\$ 2,777,319	\$ 363,603
2012	240,666	18,329	2,561,875	32,208
2013	237,593		1,936,422	16,104
2014	136,852		1,255,600	
2015			1,307,200	
Thereafter			9,702,520	
Total minimum lease payments	857,432	91,720	\$ 19,540,936	\$ 411,915
Less amounts representing interest	158,682	5,894		
Present value of bonds payable and capital lease payments	698,750	85,826		
Less current maturities	176,250	67,847		
Bonds payable, less current maturities	\$ 522,500	\$ 17,979		

***Contingencies***

In July 2006, we filed suit against Neuralstem, Inc. in the Federal District Court for the District of Maryland, alleging that Neuralstem's activities violate claims in four of the patents we exclusively license 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 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.

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)**

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.

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

**Note 13. Warrant Liability**

We use the Black-Scholes option pricing model to estimate fair value of warrants issued. In using this model, we make certain assumptions about risk-free interest rates, dividend yields, volatility and expected term of the warrants. Risk-free interest rates are derived from the yield on U.S. Treasury debt securities. Dividend yields are based on our historical dividend payments, which have been zero to date. Volatility is derived from the historical volatility of our common stock as traded on NASDAQ. The expected term of the warrants is based on the time to expiration of the warrants from the date of measurement.

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 (SEC). We received total proceeds, net of offering expenses and placement agency fees, of approximately \$18,637,000. We recorded the fair value of the warrants to purchase 10,344,828 shares of our common stock as a liability. The fair value of the warrant liability will be revalued at the end of each reporting period, with the

change in fair value of the warrant liability recorded as a gain or loss in our Consolidated Statements of Operations. The fair value of the warrants will continue to be classified as a liability until such time as the warrants are exercised, expire or an amendment of the warrant agreement renders these warrants to be no longer classified as a liability.

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)**

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

	<b>To Calculate Fair Value of Warrant Liability at December 31,</b>	
	<b>2010</b>	<b>2009</b>
Expected life (years)	3.4	4.4
Risk-free interest rate	1.2%	2.0%
Expected volatility	83.6%	79.1%
Expected dividend yield	0%	0%

	<b>At December 31, 2010</b>	<b>At December 31, 2009</b>	<b>Change in Fair Value of Warrant Liability in Year 2010</b>
Fair value of warrant liability	\$ 4,408,449	\$ 6,295,448	\$ (1,887,000)

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. We recorded the fair value of the warrants to purchase 4,000,000 shares of our common stock as a liability. The fair value of the warrant liability will be revalued at the end of each reporting period, with the change in fair value of the warrant liability recorded as a gain or loss in our Consolidated Statements of Operations. The fair value of the warrants will continue to be classified as a liability until such time as the warrants are exercised, expire or an amendment of the warrant agreement renders these warrants to be no longer classified as a liability.

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

	<b>To Calculate Fair Value of Warrant Liability at December 31,</b>	
	<b>2010</b>	<b>2009</b>
Expected life (years)	4.3	5.3
Risk-free interest rate	1.6%	2.5%
Expected volatility	77.5%	85.9%
Expected dividend yield	0%	0%

	At December 31, 2010	At December 31, 2009	Change in Fair Value of Warrant Liability in Year 2010
Fair value of warrant liability	\$ 2,263,480	\$ 3,381,520	\$ (1,118,040)

**Note 14. Common Stock**

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

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**StemCells, Inc.**

**Notes to Consolidated Financial Statements (Continued)**

***Sale of common stock***

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

In 2010, we sold a total of 1,475,200 shares of our common stock under a sales agreement entered into in June 2009 (the 2009 sales agreement ) at an average price per share of \$1.16 for gross proceeds of approximately \$1,705,000. The sales agent is paid compensation equal to 3.0% of the gross proceeds pursuant to the terms of the agreement. The shares were offered under our effective shelf registration statement filed with the SEC on June 25, 2008. Under the terms of the 2009 sales agreement, we may sell up to \$30,000,000 of our common stock, from time to time through a sales agent.

On June 29, 2010, we sold 7,000,000 shares of our common stock to an institutional investor, at a price of \$0.865 per share. We received net proceeds, after deducting offering expenses and fees, of approximately \$5,700,000. No warrants were issued in this transaction. The shares were sold under our effective shelf registration statement previously filed with the SEC. As part of the purchase agreement, the institutional investor agreed to purchase an additional 5,000,000 shares of common stock approximately 12 weeks after the initial sale, at our option and at a purchase price to be calculated using the then-current trading price. We decided not to sell these additional shares and on September 20, 2010, we terminated the purchase agreement.

In November 2009, we sold 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 a shelf registration statement filed with the SEC on June 25, 2008. We received total proceeds net of offering expenses and placement agency fees of approximately \$11,985,000.

In 2009, we sold a total of 1,830,000 shares of our common stock under the 2009 sales agreement at an average price per share of \$1.80 for gross proceeds of approximately \$3,291,000. The shares were offered under our effective shelf registration statement filed with the SEC in June 2008.

On April 1, 2009, we acquired the operations of SCS. As consideration, 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 was \$1.67 per share on April 1, 2009.

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.

In December 2006, we filed a prospectus supplement announcing the entry of a sales agreement with a sales agent 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. The sales agent was paid compensation equal to 5.0% of the gross proceeds pursuant to the terms of the agreement.



***Stock Issued For Technology Licenses***

Under license agreements with NeuroSpheres, Ltd., we obtained an exclusive patent license covering all uses of certain neural stem cell technology. We made up-front payments to NeuroSpheres of 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 began making annual \$50,000 payments, creditable against certain royalties. Effective 2008, as part of an indemnification agreement with NeuroSpheres, we offset the annual \$50,000 obligation against litigation costs

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)**

incurred under that agreement. The estimated balance for future offsets is included under Other assets, non-current on our accompanying Consolidated Balance Sheets. We have concluded that the estimated balance of \$700,000 as of December 31, 2010 is a fair estimate and realizable against future milestone and royalty payments to NeuroSpheres, and that litigation costs incurred after December 31, 2010 will be expensed as incurred. Management will reevaluate this estimate on a quarterly basis based on actual costs and other relevant factors.

Pursuant to the terms of a license agreement with the California Institute of Technology (Cal Tech) and our acquisition of its wholly owned subsidiary, StemCells California, we issued 14,513 shares of common stock to Cal Tech. We issued an additional 12,800 shares of common stock to Cal Tech with a market value of approximately \$40,000 in May 2000, upon execution of an amendment adding four families of patent applications to the license agreement. In August 2002, we acquired an additional license from Cal Tech for a different technology, pursuant to which we issued 27,535 shares of our common stock with a market value of approximately \$35,000. Under terms of the license agreement with the Cal Tech, annual fees of \$5,000 were due on each of two patents to which we hold a license from Cal Tech, payable in cash or common stock at our choice. We elected to pay the fees in stock and issued 5,900 shares in 2009, 6,924 shares in 2008, 3,865 shares in 2007 and 3,848 shares in 2006. In September 2010, we terminated all our licensing agreements with Cal Tech.

***Common Stock Reserved***

We reserved the following shares of common stock for the exercise of options, warrants and other contingent issuances of common stock, as of December 31, 2010:

Shares reserved for share based compensation	21,752,804
Shares reserved for warrants related to financing transactions	14,344,828
Shares reserved for license agreements	79,463
Shares reserved for possible future issuances under an effective shelf registration	32,914,296
Total	69,091,391

**Note 15. Deferred Revenue*****Deferred Revenue related to Licensing Agreement***

In August 2006, we entered an agreement with Stem Cell Therapeutics (SCT), a Canadian corporation, granting it a non-exclusive, royalty-bearing license to use several of our patents for treating specified diseases of the central nervous system; the grant does not include any rights to cell transplantation. SCT granted StemCells a royalty-free non-exclusive license to certain of its patents for research and development and a royalty-bearing non-exclusive for certain commercial purposes. SCT paid an up-front license fee; the license also provides for other payments including annual maintenance, milestones, and royalties. The up-front license fee is being amortized and recognized as revenue over a period of 12 years. At December 31, 2010, the unamortized amount of deferred revenue related to this agreement was approximately \$157,000.

**Note 16. 401(k) Plan**

Our 401(k) Plan covers substantially all of our employees. Participants in the plan are permitted to contribute a fixed percentage of their total annual cash compensation to the plan (subject to the maximum employee contribution defined by law). We match 50% of employee contributions, up to a maximum of 6% of each employee's eligible compensation in the form of shares of common stock. We recorded an expense of \$191,000 in 2010, \$168,000 in 2009, and \$181,000 in 2008 for our contributions under our 401(k) Plan.

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)****Note 17. The Qualifying Therapeutic Discovery Project Grant**

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

Result in new therapies to treat areas of unmet medical need or prevent, detect or treat chronic or acute diseases and conditions,

reduce the long-term growth of health care costs in the United States, or

significantly advance the goal of curing cancer within 30 years.

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

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

**Note 18. Income Taxes**

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

	<b>2010</b>	<b>2009</b>
United States	\$ 23,445,403	\$ 25,180,792
Foreign	1,798,148	1,845,619
Total loss before taxes	\$ 25,243,551	\$ 27,026,411

We follow authoritative guidance regarding accounting for uncertainty in income taxes, which prescribes a recognition threshold a tax position is required to meet before being recognized in the financial statements. As of December 31, 2010 and 2009, we have not recorded any unrecognized tax benefits. Deferred income taxes reflect the tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)**

purposes and the amounts used for income tax purposes. Significant components of our deferred tax assets and liabilities at December 31 are as follows:

	<b>2010</b>	<b>2009</b>
Deferred tax assets:		
Capitalized research and development costs	\$ 48,048,000	\$ 44,748,000
Net operating losses	51,051,000	47,979,000
Research and development credits	7,816,000	7,129,000
Accrued wind down cost	994,000	1,429,000
Stock-based compensation	688,000	723,000
Impaired asset	312,000	332,000
Capital loss carryover	318,000	
Fixed assets	370,000	190,000
Other	397,000	525,000
	109,994,000	103,055,000
Valuation allowance	(109,310,000)	(102,280,000)
Total deferred tax assets	\$ 684,000	\$ 775,000
Deferred tax liability:		
Intangible assets	(684,000)	(775,000)
Total deferred tax liability	\$ (684,000)	\$ (775,000)
Net deferred tax assets	\$	\$

Realization of deferred tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain. Accordingly, the net deferred tax assets have been fully offset by a valuation allowance. The valuation allowance increased by approximately \$7,030,000 in 2010, \$11,156,000 in 2009, and \$8,002,000 in 2008.

As of December 31, 2010, we had the following:

Net operating loss carry forwards for federal income tax purposes of approximately \$133,891,000 which expire in the years 2011 through 2030.

Federal research and development tax credits of approximately \$5,343,000 which expire in the years 2011 through 2030.

Net operating loss carry forwards for state income tax purposes of approximately \$36,970,000 which expire in the years 2011 through 2030.

State research and development tax credits of approximately \$3,746,000 (\$2,472,000 net of federal tax effect) which do not expire.

Net operating loss carry forwards in foreign jurisdictions of approximately \$12,041,000 which do not expire.

Capital loss carry forwards for federal and state income tax purposes of \$846,000 which expire in 2014.

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

**Table of Contents****StemCells, Inc.****Notes to Consolidated Financial Statements (Continued)**

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

	<b>2010</b>	<b>2009</b>	<b>2008</b>
Statutory federal income tax (benefit) rate	(34)%	(34)%	(34)%
State income tax (benefit) rate	(3.6)	(6)	(6)
Increase resulting from:			
Expenses not deductible for taxes	(0.4)	4.9	5.8
Increase in valuation allowance	38.0	35.1	34.2
Effective tax (benefit) rate	0%	0%	0%

We did not have any unrecognized tax benefits at December 31, 2010. Our policy is to recognize interest and penalties related to income tax matters in income tax expense. Because we have no tax liabilities, no tax-related interest and penalties have been expensed in our consolidated statements of operations during 2010 or accrued as a liability in our consolidated balance sheets at December 31, 2010. We do not anticipate any significant changes to total unrecognized tax benefits as a result of settlement of audits or the expiration of statute of limitations within the next twelve months.

We file U.S. federal income tax returns, as well as tax returns with the State of California and the State of Rhode Island. Due to the carry forward of unutilized net operating losses and research and development credits, our federal tax returns from 1996 forward remain subject to examination by the Internal Revenue Service, and our State of California tax returns from 2001 forward and our State of Rhode Island tax returns from 2006 forward remain subject to examination by the respective state tax authorities. We file income tax returns in various foreign jurisdictions. Tax years from 2007 forward remain subject to examination by the appropriate foreign governmental agencies.

**Note 19. Subsequent Events**

In January 2011, we raised gross proceeds of \$10,000,000 through the sale of 10,000,000 shares of our common stock to selected institutional investors at a price of \$1.00 per share. We received net proceeds, after deducting offering expenses and fees, of approximately \$9,400,000. The investors were also granted an option to purchase an additional 6,000,000 shares at \$1.00 per share. The option was not exercised and expired on February 18, 2011. The shares were offered under our effective shelf registration statement previously filed with the SEC.

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**Table of Contents****QUARTERLY FINANCIAL DATA (unaudited)**

	<b>2010 Quarter Ended</b>			
	<b>December 31</b>	<b>September 30</b>	<b>June 30</b>	<b>March 31</b>
	<b>(In thousands, except per share amounts)</b>			
Total revenue(1)	\$ 700	\$ 253	\$ 244	\$ 230
Cost of Sales(1)	63	36	25	44
Operating expenses	8,343	7,218	7,270	7,787
Other income (expense), net(2)	(1,251)	1,449	2,441	1,477
Net loss	(8,957)	(5,552)	(4,610)	(6,124)
Basic and diluted net loss per share	\$ (0.07)	\$ (0.04)	\$ (0.04)	\$ (0.05)

	<b>2009 Quarter Ended</b>			
	<b>December 31</b>	<b>September 30</b>	<b>June 30</b>	<b>March 31</b>
	<b>(In thousands, except per share amounts)</b>			
Total revenue(1)	\$ 418	\$ 253	\$ 265	\$ 57
Cost of Sales(1)	60	141	60	
Operating expenses	8,438	7,095	7,597	6,980
Other income (expense), net(2)	2,847	1,838	24	(2,358)
Net loss	(5,234)	(5,145)	(7,366)	(9,282)
Basic and diluted net loss per share	\$ (0.05)	\$ (0.05)	\$ (0.07)	\$ (0.10)

(1) As of April 1, 2009, includes product sales derived from the media and reagent technology owned through our acquisition of SCS operations see Note 5.

(2) Other expense, net, for 2010 and 2009, includes the change in fair value of our warrant liability see Note 13. Other expense, net, for 2010 includes \$977,917 received as a grant under the federal government's Qualifying Therapeutic Discovery Projects Program see Note 17.



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

None.

**Item 9A. *CONTROLS AND PROCEDURES***

**Evaluation of Disclosure Controls and Procedures**

The Company's management, with the participation of its chief executive officer and chief financial officer, evaluated the effectiveness of the design and operation of its disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) as of the end of the period covered by this annual report. Based on this evaluation, the Company's principal executive officer and principal financial officer concluded that these disclosure controls and procedures are effective to ensure that the information required to be disclosed in our reports filed or submitted under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the requisite time periods, and to provide reasonable assurance that information required to be disclosed by the Company in such reports is accumulated and communicated to the Company's management, including its chief executive officer and chief financial officer, as appropriate to allow timely decisions regarding required disclosure.

**Changes in Internal Controls**

There have been no changes in the Company's internal control over financial reporting during the quarter ended December 31, 2010, that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

**Management's Report on Internal Control Over Financial Reporting**

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

pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company;

provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and

provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

During the fiscal year 2010, the Company periodically tested the design and operating effectiveness of its internal control over financial reporting. Among other matters, the Company sought in its evaluation to determine whether

there were any significant deficiencies or material weakness in its internal control over financial reporting, or whether it had identified any acts of fraud involving management or other employees.

Based on the above evaluation, the Company's chief executive officer and chief financial officer have concluded that as of December 31, 2010, the Company's internal control over financial reporting were effective. Nonetheless, it is important to acknowledge that due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, even systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

The Company's internal control over financial reporting as of December 31, 2010 has been audited by Grant Thornton LLP, an independent registered public accounting firm, as stated in their report below.

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

Board of Directors and Stockholders  
StemCells, Inc.

We have audited StemCells, Inc. (a Delaware corporation) and subsidiaries (collectively, the Company) internal control over financial reporting as of December 31, 2010, based on criteria established in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

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

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

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

In our opinion, StemCells, Inc. and subsidiaries maintained, in all material respects, effective internal control over financial reporting as of December 31, 2010 based on criteria established in *Internal Control – Integrated Framework* issued by COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of StemCells, Inc. and subsidiaries as of December 31, 2010 and 2009, 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, 2010 and our report dated March 11, 2011 expressed an unqualified opinion thereon.

/s/ GRANT THORNTON LLP

San Francisco, California  
March 11, 2011

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**Item 9B. Other Information**

None

**PART III**

**Item 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT**

**Executive Officers**

Below are the name, age and principal occupations for the last five years of each executive officer of StemCells, Inc., as of February 28, 2011. All such persons have been elected to serve until their successors are elected and qualified or until their earlier resignation or removal.

Martin M. McGlynn, President and Chief Executive Officer	64	Martin M. McGlynn joined the company on January 2001, when he was appointed President and Chief Executive Officer of the company and of its wholly-owned subsidiary, StemCells California, Inc. He was elected to the Board of Directors in February 2001.
Ann Tsukamoto, Ph.D. Executive Vice President, Research and Development	58	Ann Tsukamoto, Ph.D., joined the company in November 1997 as Senior Director of Scientific Operations; was appointed Vice President, Scientific Operations in June 1998; Vice President, Research and Development in February 2002; and Chief Operating Officer, with responsibility for the company's research and development efforts, in November 2006. In October 2008, Dr. Tsukamoto was appointed to the newly created position of Executive Vice President, Research and Development with responsibility for the Company's scientific and clinical development programs.
Rodney K.B. Young, Chief Financial Officer and Vice President, Finance and Administration	48	Rodney K.B. Young joined the company in September 2005 as Chief Financial Officer and Vice President, Finance. In November 2006 he became CFO and Vice President, Finance and Administration. He is responsible for functions that include Finance, Information Technology and Investor Relations. From 2003 to 2005, Mr. Young was Chief Financial Officer and a director of Extropy Pharmaceuticals, Inc., a private biopharmaceutical company focused on developing drugs for pediatric indications.
Stewart Craig, Ph.D. Senior Vice President, Development and Operations	49	Stewart Craig, Ph.D., joined the company in September 2008 with responsibilities for Development, Manufacturing, Regulatory, Quality Systems and Facilities. From 2005 to 2008, Dr. Craig was Chief Technology Officer and Vice President of Progenitor Cell Therapy, a contract services provider for research, development, manufacture and commercialization of cell-based therapies, prior to which he has held executive positions at Xcyte Therapies, Osiris Therapeutics and SyStemix.
Kenneth Stratton General Counsel	42	Kenneth Stratton joined the company in February 2007 as General Counsel, with responsibility for corporate compliance and legal affairs. In March 2008, he assumed responsibilities for the Human Resources function. Prior to StemCells, Mr. Stratton served as Deputy

General Counsel for Threshold Pharmaceuticals and as Senior Legal  
Counsel for Medtronic's Vascular business unit.

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### **Directors**

Below are the name, age and principal occupations for the last five years of each Director of StemCells, Inc., as of February 28, 2011. Directors are elected to staggered three year terms.

Eric H. Bjerkholt	51	Eric H. Bjerkholt was elected to the Board of Directors in March 2004. Mr. Bjerkholt joined Sunesis Pharmaceuticals, Inc., in 2004 as Senior Vice President and Chief Financial Officer. Since February 2007, he has served as Senior Vice President, Corporate Development and Finance, and Chief Financial Officer. From 2002 to 2004, Mr. Bjerkholt was Senior Vice President and Chief Financial Officer at IntraBiotics Pharmaceuticals, Inc.
R. Scott Greer	52	Mr. Greer was elected to the Board of Directors in June 2010. He is currently a Principal and Managing Director of Numenor Ventures LLC which he founded in 2002.
Ricardo B. Levy, Ph.D.	66	Ricardo B. Levy, Ph.D. was elected to the Board of Directors in September 2001. He currently serves on several boards of directors.
Martin M. McGlynn	64	Martin M. McGlynn was elected to the Board of Directors in February 2001. He is President and Chief Executive Officer of the Company, a position he has held since January 2001.
Roger Perlmutter, M.D., Ph.D.	58	Roger M. Perlmutter, M.D., Ph.D., was elected to the Board of Directors in December 2000. He is Executive Vice President, Research and Development, of Amgen, Inc., a position he has held since January 2001.
John J. Schwartz, Ph.D.	76	John J. Schwartz, Ph.D., was elected to the Board of Directors in December 1998 and was elected Chairman of the Board at the same time. He is currently President of Quantum Strategies Management Company.
Irving Weissman, M.D.	71	Irving L. Weissman, M.D., was elected to the Board of Directors in September 1997. He is the Virginia and Daniel K. Ludwig Professor of Cancer Research, Professor of Pathology and Professor of Developmental Biology at Stanford. Director, Institute of Stem Cell Biology and Regenerative Medicine,

Certain other information required by this Item regarding our officers, directors, and corporate governance is incorporated herein by reference to the information appearing under the headings Information About Our Directors and Information About Ownership of Our Common Stock in our definitive proxy statement to be filed with the Securities and Exchange Commission within 120 days of December 31, 2010 (the 2010 Proxy Statement ).

### **Item 11. EXECUTIVE COMPENSATION**

The information required by this Item is incorporated by reference from Item 5 of this Annual Report on Form 10-K and our Proxy Statement for the 2011 Annual Meeting of Stockholders.

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

The information required by this Item is incorporated by reference from Item 5 of this Annual Report on Form 10-K and from our Proxy Statement for the 2011 Annual Meeting of Stockholders.

**Item 13. *CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS***

The information required by this Item is incorporated by reference from our Proxy Statement for the 2011 Annual Meeting of Stockholders.



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**Item 14. *PRINCIPAL ACCOUNTING FEES AND SERVICES***

The information required by this Item is incorporated by reference from our Proxy Statement for the 2011. Annual Meeting of Stockholders.

**PART IV**

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

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

*(1) Financial Statements.*

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

*(2) Financial Statement Schedules.*

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

*(3) Exhibits.*

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

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

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- 10.11 # Form of Performance-Based Incentive Option Agreement issued under the 1997 Plan(11)
- 10.12 License Agreement, dated April 1, 1997, by and among Registrant, NeuroSpheres Ltd. and NeuroSpheres Holdings Ltd. (the 1997 NeuroSpheres license agreement )(12)
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- 10.15 Lease, dated February 1, 2001, between the Board of Trustees of Stanford University and the Registrant(13)

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10.16	Third Amendment to Lease, dated October 12, 2009, between Registrant and The Board of Trustees of the Leland Stanford Junior University(14)
10.17 #	2001 Equity Incentive Plan(15)
10.18 #	StemCells, Inc. Amended and Restated 2004 Equity Incentive Plan(16)
10.19 &	License Agreement, dated as of July 1, 2005, between the Registrant and ReNeuron Limited(17)
10.20 #	Letter Agreement, effective as of September 6, 2005, between the Registrant and Rodney K.B. Young(18)
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10.22	Side Letter, dated March 21, 2002, between the Registrant and NeuroSpheres Ltd. and NeuroSpheres Holdings Ltd. regarding the 2000 NeuroSpheres license agreement(21)
10.23	Side Letter, dated July 2, 2003, between the Registrant and NeuroSpheres Ltd. and NeuroSpheres Holdings Ltd. regarding the 2000 NeuroSpheres license agreement(21)
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# Indicates management compensatory plan, contract or arrangement.

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- (1) Incorporated by reference to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2006 and filed on March 15, 2007.
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- (4) Incorporated by reference to the Registrant's current report on Form 8-K on November 12, 2008.
- (5) Incorporated by reference to the Registrant's current report on Form 8-K on October 28, 2009.
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- (7) Incorporated by reference to the Registrant's Registration Statement on Form S-1, File No. 33-45739.
- (8) Incorporated by reference to the Registrant's Registration Statement on Form S-1, File No. 33-85494.
- (9) Incorporated by reference to the Registrant's annual report on Form 10-K for the fiscal year ended December 31, 1997 and filed on March 30, 1998.
- (10) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1997 and filed on November 14, 1997.
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**SIGNATURES**

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

STEMCELLS, INC.

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

Dated: March 11, 2011

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

<b>Signature</b>	<b>Capacity</b>	<b>Date</b>
/s/ Martin McGlynn Martin McGlynn	President and Chief Executive Officer and Director (principal executive officer)	March 11, 2011
/s/ Rodney K.B. Young Rodney K.B. Young	Chief Financial Officer (principal financial officer)	March 11, 2011
/s/ George Koshy George Koshy	Chief Accounting Officer (principal accounting officer)	March 11, 2011
/s/ Eric Bjerkholt Eric Bjerkholt	Director	March 11, 2011
/s/ R.Scott Greer R.Scott Greer	Director	March 11, 2011
/s/ Ricardo B. Levy, Ph.D. Ricardo B. Levy, Ph.D.	Director	March 11, 2011
/s/ Roger M. Perlmutter, M.D. Roger M. Perlmutter, M.D.	Director	March 11, 2011

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/s/ John J. Schwartz, Ph. D.

Director, Chairman of the Board

March 11, 2011

John J. Schwartz, Ph. D.

/s/ Irving L. Weissman, M.D.

Director

March 11, 2011

Irving L. Weissman, M.D.



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3.2	Amended and Restated By-Laws of the Registrant(2)
4.1	Specimen Common Stock Certificate(3)
4.2	Form of Warrant Certificate issued to certain purchasers of the Registrant's common stock in November 2008(4)
4.3	Form of Warrant Certificate issued to certain purchasers of the Registrant's common stock in November 2009(5)
10.1	Form of at-will Employment Agreement between the Registrant and most of its employees(6)
10.2	Form of Agreement for Consulting Services between the Registrant and the members of its Scientific Advisory Board(7)
10.3 #	Cytotherapeutics, Inc. 1992 Equity Incentive Plan(7)
10.4 #	1992 Stock Option Plan for Non-Employee Directors(7)
10.5	Lease Agreement, dated as of August 1, 1992, between the Registrant and the Rhode Island Industrial Facilities Corporation(8)
10.6	First Amendment to Lease Agreement, dated as of September 15, 1994, between Registrant and the Rhode Island Industrial Facilities Corporation(8)
10.7	Lease Agreement, dated as of November 21, 1997, by and between Hub RI Properties Trust, as Landlord, and CytoTherapeutics, Inc., as Tenant(9)
10.8	Consulting Agreement, dated as of September 25, 1997, between Dr. Irving Weissman and the Registrant(10)
10.9	StemCells, Inc. 1996 Stock Option Plan(11)
10.10 #	1997 StemCells Research Stock Option Plan (the 1997 Plan )(11)
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